Government of South Australia

Child Death and Serious Injury Review Committee

2016-17 Annual Report

Child Death and Serious Injury Review Committee

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ISSN	1833 - 9743
Date presented to Minister:	30 October 2017

To:
Hon Susan Close

Minister for Education and Child Development

Minister for Higher Education and Skills

I submit to you for presentation to Parliament, the 2016-17 Annual Report of the South Australian Child Death and Serious Injury Review Committee, which has been prepared pursuant to Part 7C of the *Children's Protection Act 1993.* This report is presented to meet the requirements of Premier and Cabinet Circular *PC013 Annual Reporting*.

This report is verified to be accurate for the purposes of annual reporting to the Parliament of South Australia.

Submitted on behalf of the Child Death and Serious Injury Review Committee by:

Dymphna Eszenyi

Chair

Child Death and Serious Injury Review Committee

Signature

30/10/2017

Date

Contents

Section A: Reporting required under the *Public Sector Act* 2009, the *Public Sector Regulations 2010* and the *Public Finance and Audit Act* 1987

In compliance with the *Public Sector Act 2009* and the *Public Finance and Audit Act 1987*, information concerning the management of human resources and financial issues of the Committee has been submitted as part of the Annual Report of the Department for Education and Child Development 2016-17.

Agency purpose or role

The role of the Child Death and Serious Injury Review Committee is to contribute to the prevention of death or serious injury to South Australia's children. The Committee reviews the circumstances and causes of deaths and serious injuries to children and makes recommendations to Government for changes to legislation, policies and procedures that may help prevent similar deaths or serious injuries.

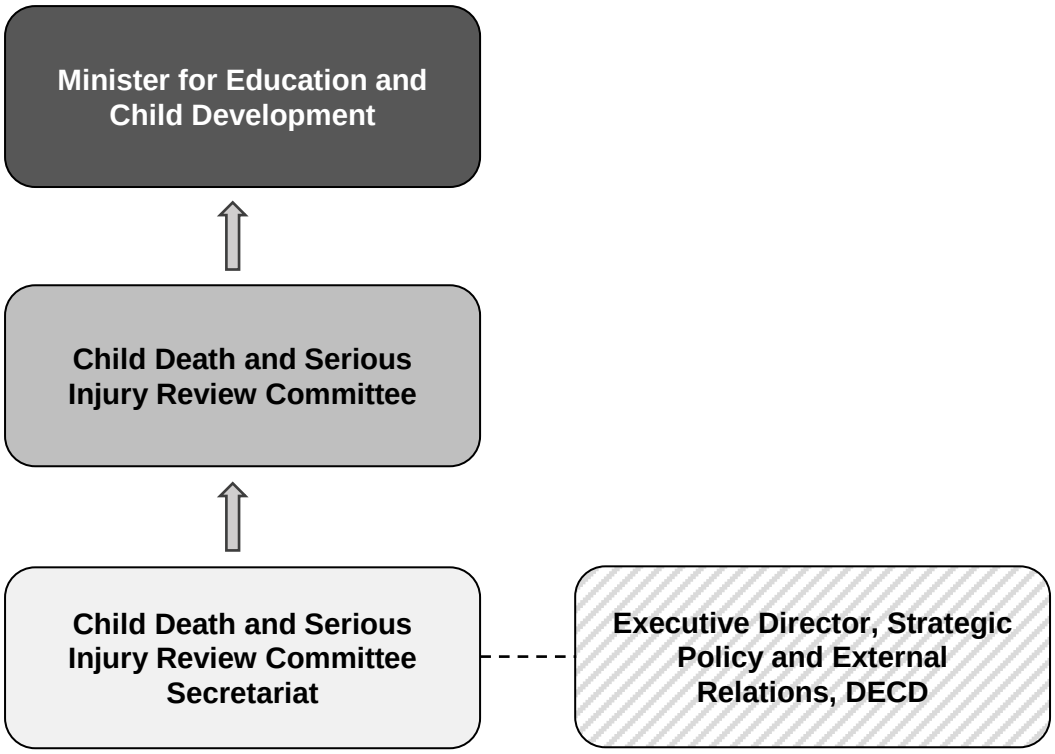
Objectives

- The timely and accurate collection of information about the circumstances and causes of child deaths and serious injuries.
- Screening the circumstances and cause of each child death in South Australia, and identifying systemic issues that should be addressed through the review process.
- Undertaking reviews of deaths and serious injuries to identify systemic issues, and making recommendations to the Minister about systemic changes that will contribute to the prevention of similar deaths or serious injuries.
- Monitoring the progress of recommendations, including supporting and contributing to prevention-based activities concerning child deaths and serious injuries.
- Contributing through its Annual Report, to government and community knowledge and understanding of the causes of child deaths and serious injuries, and the efforts that should be made to prevent or reduce deaths or serious injuries.
- Reporting to the Minister on the performance of its statutory functions.
- Maintaining links with interstate and national bodies undertaking similar work.

Legislation administered by the agency

Part 7C of the *Children's Protection Act 1993*

Organisation of the agency



Section B: Reporting required under any other act or regulation

Name and date of act or regulation ***Children's Protection Act 1993***
Part 7C, Section 52S
Report as per requirement – see pages 1-86 attached.

CHILD DEATH & SERIOUS INJURY
REVIEW COMMITTEE

Annual Report 2016–2017

Government
of South Australia

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Chair's Foreword

I am pleased to present the Child Death and Serious Injury Review Committee's twelfth Annual Report to Parliament under Part 7C of the *Children's Protection Act 1993.*

The Committee has submitted five reviews to the Minister for Education and Child Development in this financial year. Recommendations arising from these reviews included the importance of timely cross-border information sharing, the need to support young people under guardianship through the provision of appropriate, trauma-informed services, the extension of guardianship beyond the age of 18 years, and ante-natal, birthing and parenting support services.

The Report of the Royal Commission into Child Protection Systems (RCCPS) was released in August 2016. The Committee noted that many of the recommendations made by Commissioner Nyland were similar to recommendations that the Committee has made over the years. In the wake of the RCCPS report, the Committee has been called upon to provide comment and feedback on related draft legislation, proposed new policies, procedures and practices, and to establish relationships within the new Department for Child Protection, and with the inaugural Children's Commissioner.

While a great deal of effort has been made in providing feedback and advice as requested, the Committee remains eager to see its contributions clearly reflected in service delivery to families. As an example, in 2006-07 the Committee, concerned about the number of infants who died in unsafe sleeping environments, called for a campaign that would provide disadvantaged families with knowledge and confidence about safe sleeping and, when needed, appropriate cots or beds. We now know from our New Zealand colleagues that such programs can reduce the number of deaths of infants. We have again recommended that the Government provide disadvantaged families with the information and support they need, and access to portable infant safe sleeping devices similar to those provided to families in New Zealand.

On behalf of the Committee, I again call attention to the association between disadvantage and death, so clearly illustrated in Figure 4 on page 7 of this report. I also draw attention to the startling difference between the death rates for Aboriginal children and non-Aboriginal children on page 20. The Committee has reported on this difference for the past eight years. This year, we have recommended the appointment of a strong and influential advocate for Aboriginal children and young people.

The Committee believes that services should target families and children in the groups where death rates are highest, and where the number of deaths are greatest.

I thank the Committee members for the attention, care and expertise that each of them has brought to the Committee's work during the year. Despite being drawn from highly disparate backgrounds, they all share a strong commitment to South Australia's children. It is a pleasure to see them working together to 'think outside the box' to find ways to make changes that will achieve better outcomes for our children.

The Committee is also very well served by its small but highly skilled Secretariat, led by Dr Sharyn Watts.

I have completed my second year as Chair of the Australian and New Zealand Child Death Review and Prevention Group. The Committee's involvement in this group is of great benefit to our work, providing valuable consolidation of the observations we have made in our South Australian reviews, and valuable insights from around Australia and New Zealand, concerning the ways and means of preventing harm to children.

On behalf of the Committee, I extend my condolences to the families and friends who have experienced the death of a child, and to the communities and professionals who cared from them.

We seek to care for all our children and to keep them safe. I share the Committee's hope that this Report will assist those who work with and for children in their efforts to keep them safe from harm.

DJ Eszenyi
Chair
Child Death and Serious Injury Review Committee

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Tables and Diagrams

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Glossary

ABCB	Australian Building Codes Board
ABS	Australian Bureau of Statistics
ARIA+	Index of Remoteness and Accessibility, Australia
ATSI	Aboriginal and Torres Strait Islander
CAMHS	Child and Adolescent Mental Health Service
CASR	Centre for Automotive Safety Research
CDSIRC	Child Death and Serious Injury Review Committee
Children	In this report 'children' includes infants, children and young people from birth up to 18 years
COAG	Council of Australian Governments
DCP	Department for Child Protection – formerly Families SA
DECD	Department for Education and Child Development
Families SA	Now known as the Department for Child Protection
ICD–10	International Classification of Disease (Version 10)
IMR	Infant Mortality Rate
Infant	A child less than one year of age
IRSD	Index of Relative Socio-economic Disadvantage
NDIS	National Disability Insurance Scheme
RCCPS	Royal Commission into Child Protection Systems
SEIFA IRSD	Socio-Economic Indexes for Areas, Index of Relative Socio-economic Disadvantage
SIDS	Sudden Infant Death Syndrome
SUDI	Sudden Unexpected Death in Infancy
WCH	Women's and Children's Hospital

Acknowledgements

The Committee wishes to thank the following individuals and organisations for making themselves available to support the Committee's work:

- Australian and New Zealand Child Death Review and Prevention Group (ANZCDR&PG) representatives attending ANZCDR&PG meetings who share insights gained from their own jurisdictions
- Department for Child Protection for support with: Business Intelligence and Data Warehousing, especially Daniel Moss and Kate Reynolds; and CIS Coordination, especially Frank Beddison
- Department for Communities and Social Inclusion which continues to provide technical advice and support for the Committee's database, and assistance with records management
- Department for Education and Child Development for support with: administrative, financial and human resource management; and Data Management and Information Systems especially Edward Trojanowski, Demographer
- Forensic Science SA and SA Pathology especially Associate Professor Lynette Moore
- Kidsafe SA
- National Centre for Health Information Research and Training, Brisbane, especially Ms Sue Walker, Director
- Office of Births, Deaths and Marriages
- SA Health for support from: the Health Statistics Unit, especially Kamalesh Venugopal, Unit Head; and, the Maternal and Perinatal Mortality Committee, especially Dr Wendy Scheil and Robyn Kennare
- State Coroner, Mr Mark Johns Coroner, and staff
- Women's and Children's Health Network Records Management team
- Chief Executives and Senior Officers from the Department for Child Protection, the Department for Education and Child Development, the Department for Communities and Social Inclusion, SA Health and SA Police for contributing to the Committee's understanding of service delivery in their departments.

Committee Members

Chair

Ms Dymphna (Deej) Eszenyi

Members

Dr Mike Ahern	from 14 July 2016
Ms Angela Davis	
Dr Mark Fuller	
Ms Dianne Gursansky	
Ms Ann-Marie Hayes	from 1 July 2016
Ms Pam Hemphill	from 1 July 2016
Dr Deepa Jeyaseelan	
Dr Margaret Kyrkou OAM	
Mr Tom Osborn APM	
Mr Philip Robinson PSM	from 1 July 2016
Ms Kerrie Sellen	from 6 October 2016
Dr Nigel Stewart	
Ms Barbara Tiffin	

Section One

Child Deaths South Australia, 2005-2016

S52S – Functions of the Committee

a) *to review cases in which children die or suffer serious injury with a view to identifying legislative or administrative means of preventing similar cases of death or serious injury in the future.*

b) *to make and monitor the implementation of, recommendations for avoiding preventable child death or serious injury.*

S52T – Database

The Committee will maintain a database of child deaths and serious injury cases and their circumstances.

Children's Protection Act, 1993

1. Child deaths South Australia, 2005-2016

The intent of the Committee is to improve the safety and wellbeing of children in South Australia. It does this by collecting information about the circumstances and causes of all child deaths in South Australia, analysing and reviewing this information, making recommendations to Government, and monitoring the implementation of those recommendations. From time to time, the Committee also reviews specific cases of serious injury.

In the 2016-17 year, the Committee's activities focused on:

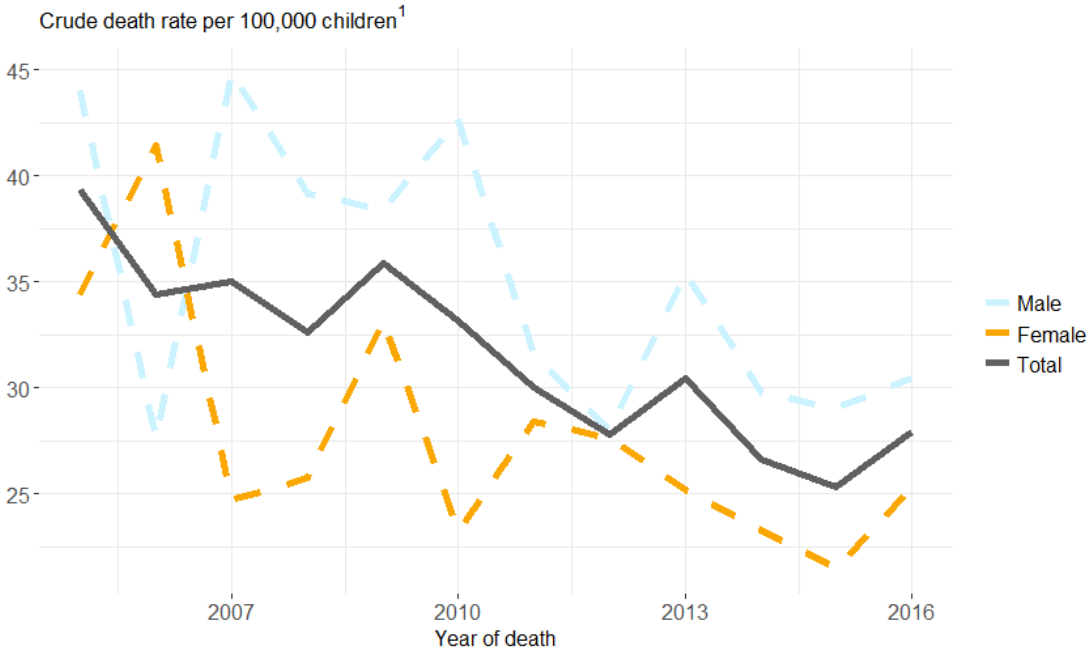
- The analysis of trends and patterns in child deaths between 2005 and 2016
- Child deaths and the child protection system
- Deaths of Aboriginal children
- Deaths of children with disability
- Infant mortality and the sudden unexpected deaths of infants
- Child deaths from illness and disease, and the health system
- Injury-related deaths, serious injuries and child safety.

The Committee's analysis and reviews of child deaths, the actions it has taken, including through making and monitoring recommendations, are summarised in the following sections of the Report.

1.1. Trends and rates[1]

Opportunities for prevention and intervention to improve the safety and wellbeing of children can be identified through the systematic collection and analysis of information about child deaths.

Figure 1: Child death rates by year and sex, South Australia 2005-2016



1. All deaths including those pending a determination of cause of death by the coroner, those recorded as undetermined and deaths of non-residents are included. Numerators from CDSIRC database and denominators from ABS TABLE 54. Estimated Resident Population By Single Year Of Age, South Australia

The death rate for all children who died in South Australia between 2005 and 2016 has decreased by 2.4 % on average, per year[2].

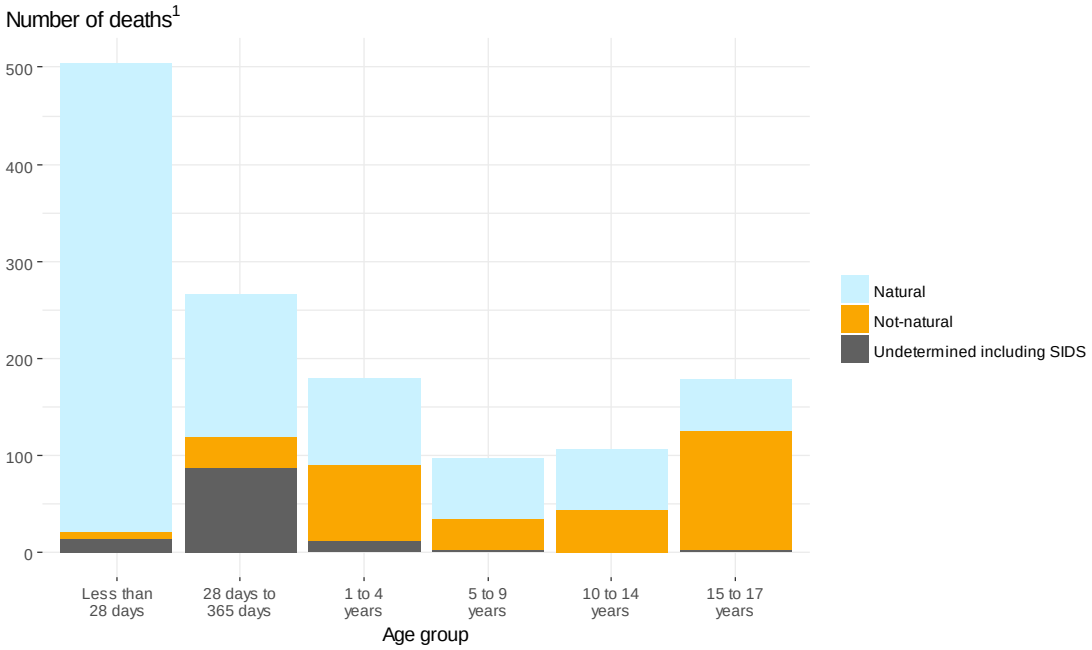
[1] *See Tables 8 & 9, Section 4 for death rates over time and detailed demographics of child deaths in South Australia 2005-2016*
[2] *See Section 3.1 for details about deaths that have been included and excluded from the analysis.*

1.1.1. Age and cause of death[3]

Children in South Australia die from many different causes including:

- Natural causes – deaths attributed to illness and disease
- Not-natural causes or injury-related causes – deaths attributed to transport crashes, deliberate acts by another person, fire, drowning, suicide, accidents, medical misadventure and neglect. These deaths are also referred to as deaths from 'external' causes
- Undetermined causes, including Sudden Infant Death Syndrome (SIDS) – deaths where the Coroner found that no cause of death was apparent.

Figure 2: Child deaths by age and cause of death, South Australia 2005-16



1. Causes of death that were pending a determination by the Coroner are not included. Not-natural deaths include deaths due to transport, deliberate acts by another, fire, drowning, suicide, accident, medical misadventure and neglect. Data from CDSIRC database.

The leading causes of death for South Australia's children are natural causes, especially for very young infants. Older children are more likely to die from injury-related causes, particularly transport crashes and by suicide.

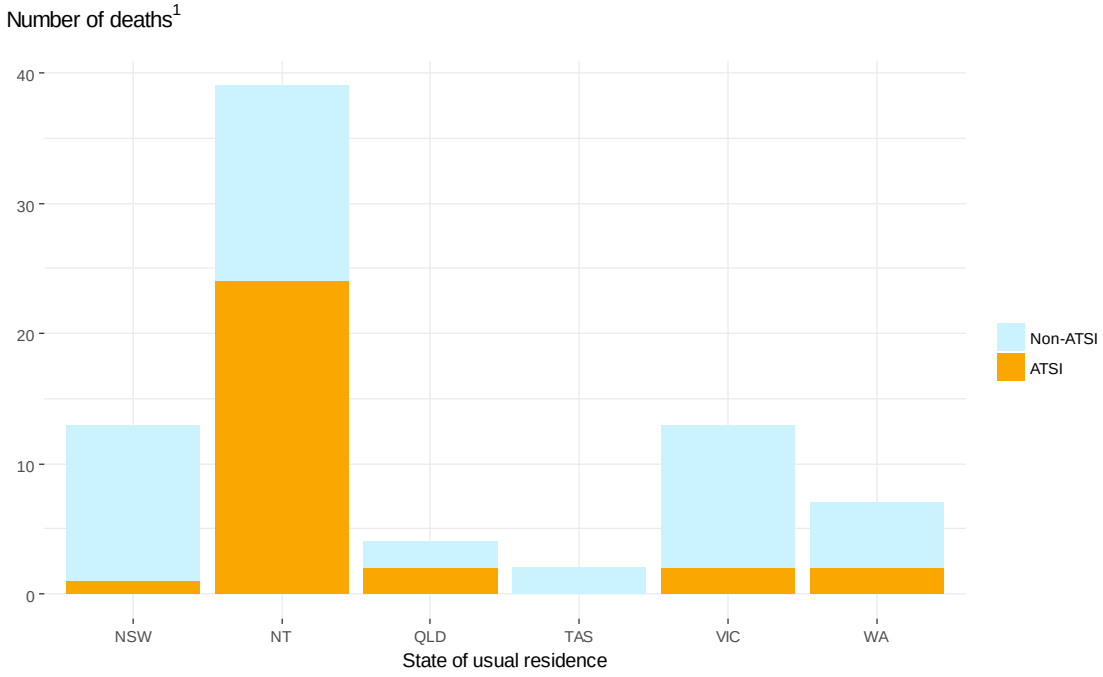
Section 4 provides further details about the patterns of death for each age group.

[3] *See Tables 10 & 11, Section 4 for detailed information about causes of child deaths by year and by age group in South Australia 2005-2016*

1.1.2. Deaths of 'non-resident' children

In the twelve years from 2005 to 2016, there were 80 deaths of children who were not normally resident in South Australia.

Figure 3: Deaths of non-resident children by jurisdiction and cultural background, South Australia 2005-16



1. All deaths including those pending a determination of cause of death by the Coroner and those recorded as undetermined are included. All data from CDSIRC database.

Thirty-nine of these 80 deaths (49%) were of children normally resident in the Northern Territory, and of these 39 deaths, 24 (62%) were of Aboriginal children.

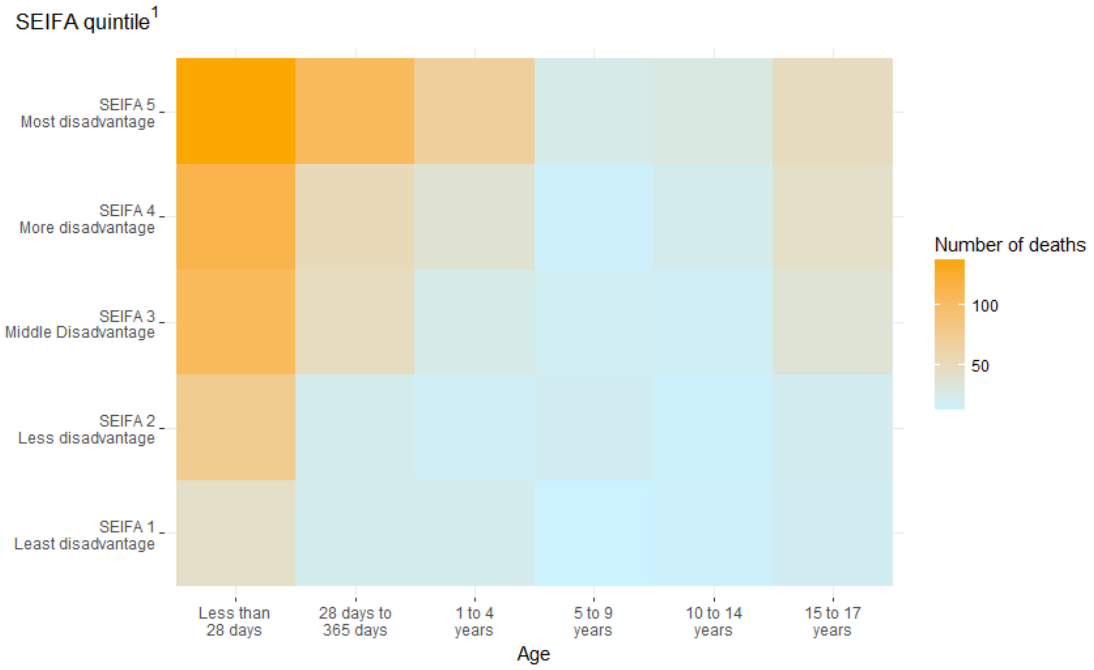
The deaths of many of these non-resident children reflect cross-border arrangements where seriously ill children are brought to South Australia for high level medical care including:

- extremely premature infants
- infants during an episode of illness in their first year of life
- children and young people with complex medical conditions or with injuries due to various external causes.

1.1.3. Socioeconomic disadvantage

International research has shown a strong and inverse relationship between child death and social advantage[4]. Using the Socio-Economic Indexes for Areas (SEIFA) developed by the Australian Bureau of Statistics[5] (ABS), the Committee has documented the persistence of higher numbers of child deaths in the areas of the State in which there is the greatest level of social disadvantage[6]. Figure 4 shows the number of deaths in each SEIFA category, by age at death.

Figure 4: Child death by SEIFA category and age, South Australia 2005-16



1. Deaths of children who were not South Australian residents are not included. Age and address data from CDSIRC database. SEIFA level from ABS SEIFA by State Suburb Code.

Across all age groups, there is a broad pattern of increasing deaths with increasing levels of disadvantage. For all levels of SEIFA there is a consistent pattern of low numbers of deaths in the age range 5 to 14 years, and two peaks, one in the youngest age group and one in the oldest.

Most importantly, the increase in the number of deaths at younger and older ages is greater at higher levels of socioeconomic disadvantage. The impact of this disadvantage is demonstrated by the particularly high number of deaths in children under one year of age at higher levels of SEIFA.

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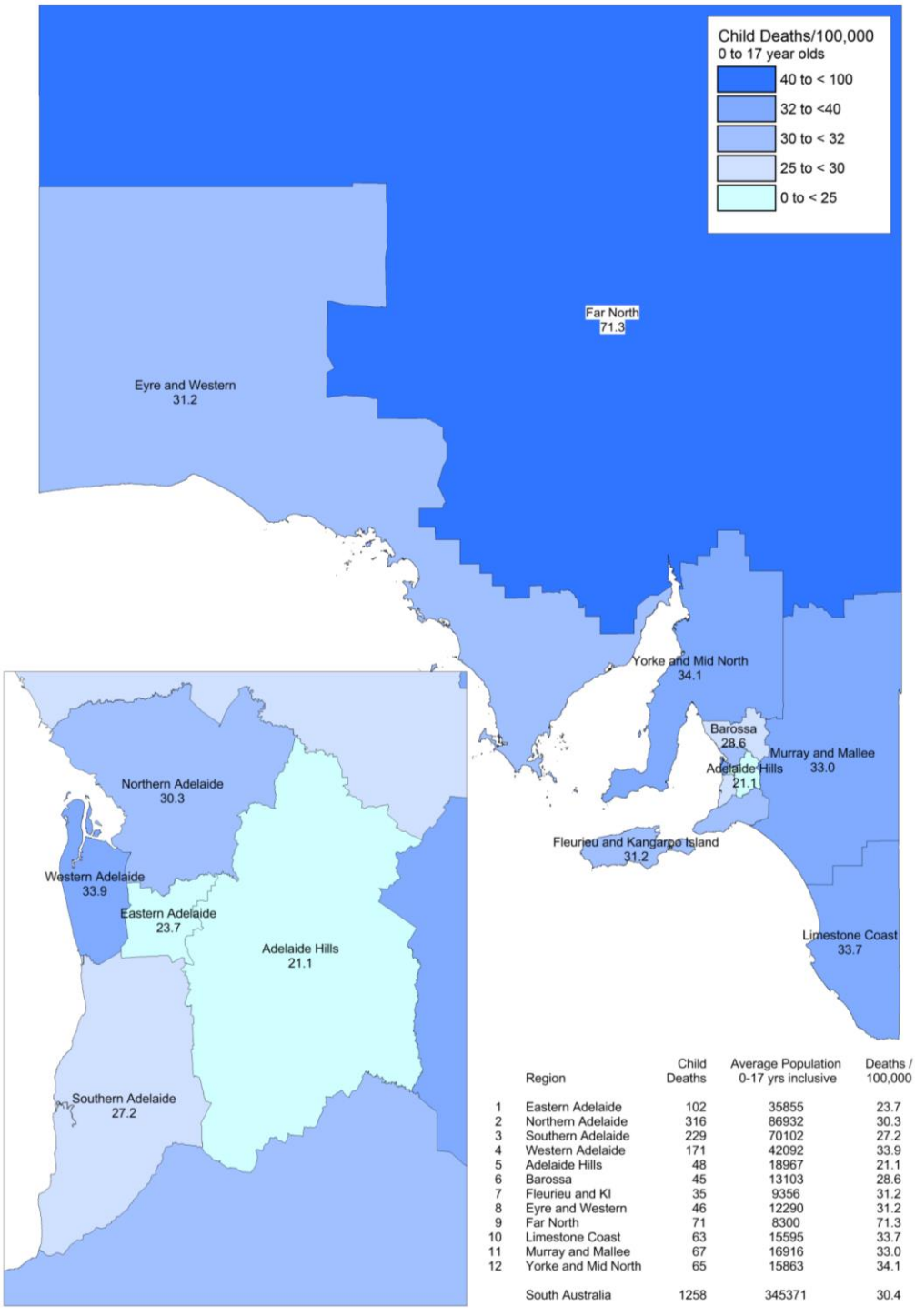
[4] *The Lancet V 384 p830 Child deaths: inequity and inequality in high-income countries.*
[5] *See Section 3.15 for a detailed explanation of how SEIFA is calculated and applied here.*
[6] *CDSIRC Annual Reports:* http://www.cdsirc.sa.gov.au/

1.1.4. Child death rates by region

Important issues for service planning and delivery are highlighted when death rates and numbers of deaths are mapped against the South Australian Government's twelve administrative regions.

The highest death rates are associated with living in the Far North and the Yorke and Mid North regions. In contrast, the greatest numbers of deaths are recorded in the northern and southern regions of Adelaide. Services should be planned and delivered to take into account, areas where the rate of death is highest, and those where the greatest number of deaths occur.

Figure 5: Child death rates by region, South Australia 2005-2016



	Region	Child Deaths	Average Population 0-17 yrs inclusive	Deaths / 100,000
1	Eastern Adelaide	102	35855	23.7
2	Northern Adelaide	316	86932	30.3
3	Southern Adelaide	229	70102	27.2
4	Western Adelaide	171	42092	33.9
5	Adelaide Hills	48	18967	21.1
6	Barossa	45	13103	28.6
7	Fleurieu and KI	35	9356	31.2
8	Eyre and Western	46	12290	31.2
9	Far North	71	8300	71.3
10	Limestone Coast	63	15595	33.7
11	Murray and Mallee	67	16916	33.0
12	Yorke and Mid North	65	15863	34.1
	South Australia	1258	345371	30.4

1.2. Child deaths and the child protection system

The Committee continues to review deaths where children or their families have had contact with the child protection system, monitor the implementation of recommendations associated with these reviews, and analyse the number and causes of the deaths of these children.

1.2.1. Reviewing the deaths of children who had contact with the child protection system

Three reviews of the deaths of children who had contact with the child protection system were submitted in this reporting period. In each of these reviews, the death of an infant or child prompted the review of the parents' child protection history as well as that of the infant:

- A review of an infant who was fatally assaulted, Case 900 (Section 1.2.1)
- A review of six parents with a history of guardianship whose infants had died, (Section 1.2.2)
- A review of two young Aboriginal and Torres Strait Islander (ATSI) women whose infants had died, Cases 784 and 1256 (Section 1.3).

Common themes ran through the reviews. These young parents of an infant or child who died, made vulnerable by their life circumstances, required the assistance of the State to prevent the untimely deaths of their children and to prevent serious injury or disability to the siblings of these children.

Each of these reviews produced recommendations which, if implemented, would help to avoid critical systemic errors in child protection practice. The Committee was aware that the reviews with accompanying recommendations were being made within the context of a child protection system undergoing significant transformation. It anticipates that its findings will be considered by those who are implementing child protection reform, to reflect critically on the changes being made to that system.

Review of Case 900

The Committee reviewed the death of a young infant whose parents had had contact with child protection agencies in this and other States. In the Committee's view, neither of these young people had been equipped to take on the responsibilities of parenting. The infant's father sought to minimise contact with workers from health and

child protection agencies seeking to monitor the wellbeing of the infant and provide support. The infant and the mother became socially isolated, and the child protection system did not recognise the risks for this infant.

In January 2016, the State Coroner released his Findings regarding the circumstances of this infant's death. The Committee did not seek to duplicate the Coroner's findings in its review, which was submitted to the Minister for Education and Child Development on 30 June 2017, with the following recommendations and queries.

Table 1: Review - Case 900 - recommendations and queries

Recommendation 1

The Committee recommends that the Department for Child Protection (DCP) re-evaluates the level of risk assigned to cases so that when a notification has been made about an infant, and one or other parent was previously, or is currently under a Guardianship order, DCP provides ongoing, active case management for the first two years of the life of that infant.

Recommendation 2

It is recommended that DCP, the Department for Education and Child Development (DECD) and SA Health evaluate the 'Collaborative Case Management for At Risk Infants' policy and procedure in light of the concerns outlined in this review.

Queries

- What action is DCP taking to address issues of cross-border movement of children and young people who are, or were, under the guardianship of the Minister when they moved from their home state?
- What progress has been made to ensure that child protection staff understand and use the SA Information Sharing Guidelines? In what ways can this progress be demonstrated and how are barriers being addressed?
- The Committee seeks information about:
    - 'Bottom line' provisions placed around minimum levels of supervision.
    - The ways in which the competence and capacity of workers will be evaluated.
    - How this kind of evaluation will be used to improve the quality of child protection services.
- What audit processes are now in place to ensure that there is scrutiny of decision-making by senior child protection practitioners and supervisors?
- The Committee asks for confirmation that this information is available to DCP and requests information about the impact of child protection reform, in particular the Multi-Agency Assessment Unit and Child and Family Assessment and Referral Networks on the policy and practice for high risk infants.

The Committee awaits a response from the Minister.

Review of contemporary practice – Case 1159

The Committee wrote to the Department for Child Protection (DCP), after reviewing the services provided to a family during a six month period in 2016. The Committee held considerable concerns about practice issues such as case management, the use of solution-based casework, structured decision-making and safety plans, the assessment of parenting capacity, neglect and cumulative harm, service provision to siblings with disability, and recording the child's history.

The Committee noted that the deficits in child protection practices identified in this review were no different to those identified in cases reviewed several years previously.

The Committee met with senior practitioners from DCP to discuss the practice issues arising from this review, and to understand contemporary practice changes that were anticipated as a result of the agency's responses to recommendations made by the Coroner and the Royal Commission into Child Protection Systems (RCCPS).

DCP advised it will: introduce a new clinical governance framework that integrates practice with collaborative inter-agency work; review the 'care concerns' process and consider the best ways in which to expedite this process so that the child's needs are prioritised; and, give due consideration and acknowledgement to issues for the siblings of children who have died. The Committee will monitor progress of the implementation and evaluation of these proposed changes.

Monitoring recommendations about the child protection system

In the Committee's view, DCP must actively manage its contracts and monitor the outcomes of the services that its contracted agencies provide. Based on updates from those agencies, DCP must be satisfied that the referred children and their families have received appropriate and timely services, and that the risk to those children has been ameliorated.

In its 2015-16 Annual Report, the Committee was awaiting a response from the Minister with regard to actions arising from a review where the death of the young person was attributed to neglect (Case 601). The Committee had recommended actions addressing the ways in which agencies responded to cases of serious long-term neglect. The Committee highlighted the importance of the contractual arrangements between DCP and other Government and non-Government agencies.

In August 2016, the Minister responded to these recommended actions, setting out changes that have been made to case management practices, and to the assessment of neglect and cumulative harm of children in the child protection system. The Committee responded to this letter in September 2016, pointing out that the information provided did not address the substance of the actions it had recommended in relation to the agency's contractual arrangements. The Committee awaits a response from the Minister.

The role of the Auditor-General

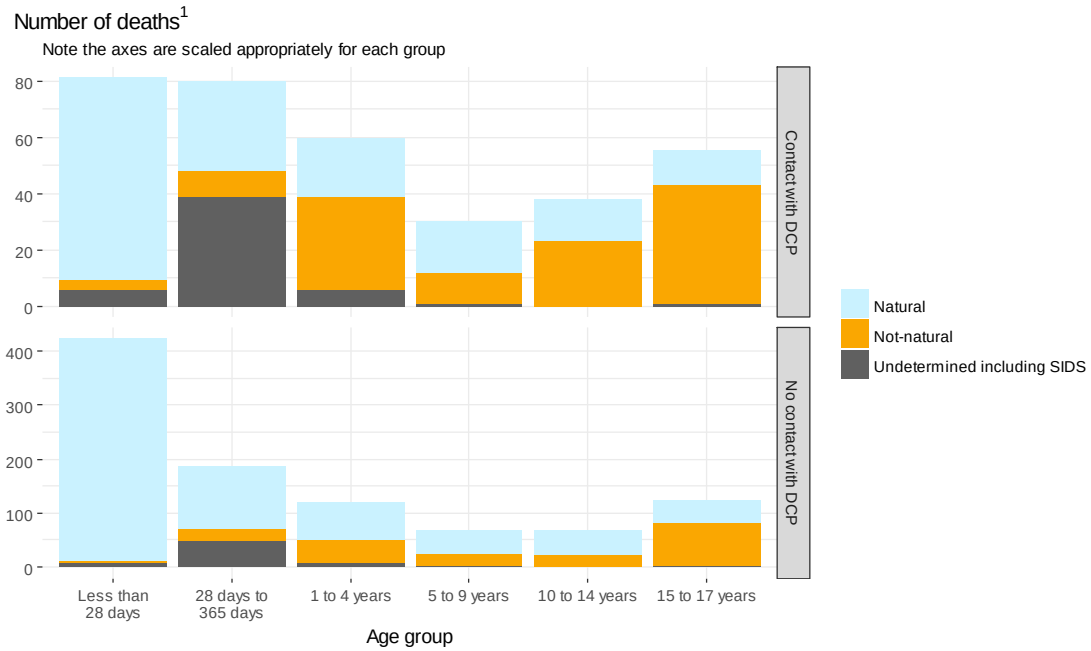
The Committee also sought to facilitate change to child protection practices by writing to the Auditor-General in February and November 2016. The Committee requested the opportunity to discuss any potential within his role to assist the Committee in ensuring its legal duties of identifying legislative or other administrative means of preventing the deaths of children, and monitoring the implementation of its recommendations.

The Auditor-General provided his response in June 2017. The Auditor-General noted the establishment of DCP as a separate entity in response to recommendations of the RCCPS which had also resulted in the appointment of a new executive leadership team. The Auditor-General suggested that this new leadership team may be able to consider the Committee's recommendations as part of that team's work in responding to the RCCPS's recommendations. Given these changes, the Auditor-General said that he did not propose to conduct audit activity beyond his recent focus regarding overdue reviews of some foster carers while substantial changes were being made to the child protection system.

Analysing the number and causes of child deaths and the child protection system

In the twelve years from 2005 to 2016, 347 of the 1338 children who died (26%), or their families, had had contact with the child protection system in the three years before their deaths. Half of these children (171) lived in the State's most disadvantaged areas. There were 69 deaths of children with disability, 11 of whom were under the guardianship of the Minister at the time of their deaths.

Figure 6: Child deaths and contact with the Department for Child Protection in the previous three years by age and cause of death, South Australia 2005-16



1. Causes of death that were pending a determination by the Coroner are not included. Not-natural deaths include deaths due to transport, deliberate acts by another, fire, drowning, suicide, accident, medical misadventure and neglect. Age from CDSIRC database and contact history from DCP database.

The notable differences between the causes of death for these children and the causes of death for children who had no contact with the child protection system are:

- The number of infants dying from undetermined causes, including SIDS. Section 1.5.1 looks more closely at the reasons for these deaths.
- The number of young people 15 to 17 years dying from not-natural causes – in particular transport crashes and by suicide[7].

1.2.2. Children under the guardianship of the Minister

During the period 2005 to 2016, of the 19 children who died while under the guardianship of the Minister, 11 (58%) had a disability, and 12 (63%) were Aboriginal. Twelve of these children lived in the State's most disadvantaged areas categorised as SEIFA 4 and 5[8].

Eleven children with disability who died while under guardianship of the Minister were the subject of a review in 2016-17 (see Section 1.4).

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[7] *See Tables 12 & 13, Section 4 for detailed demographics about child deaths and causes of death for children who have had contact with the child protection system in South Australia, 2005-2016*
[8] *See Table 14, Section 4 for detailed demographics about the deaths of children under guardianship in South Australia 2005-2016*

1.2.3. Parents with a history of guardianship whose infant died

The Committee continues to review cases of child death where the child's parent(s) had a history of guardianship. During the twelve year period from 2005 to 2016, of the deaths of children whose parent(s) had a history of guardianship: half were due to complications of prematurity; most (75%) were infants; and over half (65%) lived in the two most disadvantaged socio-economic areas of the State[9].

Reviewing the deaths of children whose parents had a history of guardianship

In 2015, the Committee undertook a review of nine parents who had a history of guardianship and whose infant had died.

In June 2017, the Committee submitted a review of a further six young parents with a history of guardianship whose child had died. The life courses of these six young parents were consistent with those in the Committee's 2015 review.

The complexity of the lives of these young parents was identified as a major challenge for practitioners, service providers and carers working with them. In both reviews, the Committee noted that the supports needed by these young people were often not provided while they were under guardianship.

To address the issues identified in these two reviews, the Committee made six recommendations, which follow.

[9] *See Table 15, Section 4 for detailed demographics about the deaths of children whose parents had a history of guardianship in South Australia 2005-2016*

Table 2: Review - Parents with a history of guardianship whose infant has died – recommendations

Recommendation 1

The South Australian Government should recommend to the Council of Australian Governments (COAG) that there be placed on its agenda agreement to a course of action for information sharing between states and territories (states) and the Commonwealth that would provide child protection workers with timely information about young people's movements between states.

Any action agreed by COAG should be implemented by the Department for Child Protection and reviewed regularly with a view to building on and improving the quality of interstate collaborative work.

Recommendation 2

In designing trauma-informed services, child protection, education, health and justice service systems should ensure that models of therapeutic care are relevant to the needs of young parents with life-long complex support needs and effective in assisting them to change their adaptive responses to their experience of trauma.

Recommendation 3

The South Australian Government appoint a Deputy Commissioner for Aboriginal and Torres Strait Islander children and young people.

Recommendation 4

Care extended past the age of 18 years up to 26 years include a focus on:

- assistance with trauma related support
- pregnancy, birthing and parenting support.

Recommendation 5

SA Health should initiate and implement effective trauma-informed programs of engagement with young people about to become parents that can be sustained into the early years of the child's life.

Recommendation 6

Where young parents who have a history of guardianship and whose infant or child dies, the Department for Child Protection, to assist with grief and loss, should:

- be notified of the death
- arrange for sustained support for as long as is needed for the young parent.

The Committee also requested that the Minister re-consider the questions posed in the review submitted in 2015. The Committee requested information about current practices, data collection, service responses, and the outcomes for young people transitioning from guardianship to independence. The Minister advised that these questions could not be answered because the child protection agency's data collection system does not have the capacity to provide the information. In the Committee's view a child protection system that is unable to provide this information has no way of knowing if children in the care of the State are safe and well.

1.2.4. Child Protection System Reform

In August 2016, the RCCPS released its report and recommendations. The Committee welcomed the report and its scrutiny and commentary about the challenges and issues facing the child protection system. The Committee noted the similarity between many of the recommendations made by the RCCPS with those made by the Committee over its eleven years of operation.

The Children and Young People (Safety) Bill 2017

In response to the recommendations of the RCCPS, the Government drafted the *Children and Young People (Safety) Bill 2016*. The Committee views this Bill as a key component in the reform of the child protection system and has critically reviewed each iteration of this Bill and provided feedback to the Minister for Child Protection Reform.

The Committee supported the final version of this Bill, stating that:

*In the light of the Minister's intention to draft this other Bill, (a Bill to protect and improve the **wellbeing** of children and seek to **intervene early** in the lives of those families where the wellbeing of children is at risk), it is the Committee's view that the Children and Young People (Safety) Bill 2017, for its stated purpose of protecting the safety of children and young people, is a perfectly decent legislative instrument. In the Committee's view, to continue to hold up its passage through the Parliament is more likely, in the long-term, to do harm to children than to be of any benefit to them.*

This Bill was passed in both Houses of Parliament in July 2017, and awaits assent.

The best way in which the Committee can monitor the impact of these reforms is through its scrutiny of child protection practices evident in its review of child deaths and serious injuries.

1.3. Deaths of Aboriginal children

The Committee's 2014-15 Special Report *Aboriginal child deaths*[10] illustrated the multiple and complex issues that make it difficult for some Aboriginal families to keep their children safe and well.

Reviewing the deaths of Aboriginal children - Young Aboriginal mothers whose infant died – Cases 784 and 1256

This review examined the lives of two young women whose infants died on the day they were born. This review once again illustrated full impact of long-term life stressors and high-risk environments on the lives of Aboriginal children and young people.

The review highlighted the need for Aboriginal children and young people to have a strong and influential advocate who can work actively to ensure that they:

- ***have the opportunity to have a full and healthy life***
- ***have opportunities to participate in their culture and community in powerful and positive ways, and***
- ***are not seriously injured, and that their children are not at risk of serious injury or death.***

These considerations gave rise to four recommendations, which follow.

[10] http://www.cdsirc.sa.gov.au/wp-content/uploads/2017/07/2014-15_cdsirc_annual_report.pdf

Table 3: Review - Young Aboriginal mothers whose infants died – recommendations

Recommendation 1

The Child Death and Serious Injury Review Committee recommends that the South Australian Government appoint a Deputy Commissioner for Aboriginal and Torres Strait Islander children and young people.

Recommendation 2

The Child Death and Serious Injury Review Committee seeks a meeting with the Department for Child Protection Reform Implementation Team. The Committee holds in-depth knowledge about the ways in which services have failed Aboriginal children, and the gaps in service delivery that have led to these failures.

Recommendation 3

The Child Death and Serious Injury Review Committee recommends that the Minister for Child Protection Reform strengthen the obligations relating to the Aboriginal Placement Principle in the Children and Young People (Safety) Bill. These obligations must require evaluation of the ways in which the Principle is operationalised and put into practice.

Recommendation 4

The Child Death and Serious Injury Review Committee continues to recommend the development of an integrated model of service delivery for Aboriginal children and their families that does not rely on one service alone.

This review was submitted in June 2017 and the Committee still awaits the Minister's response.

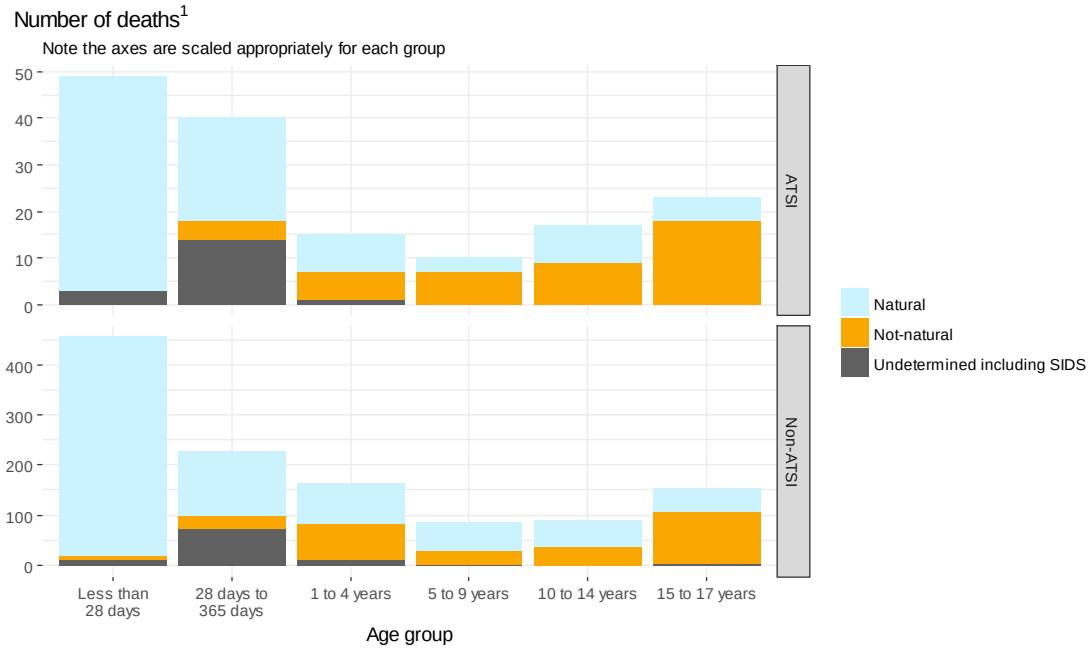
Analysing the number and causes of Aboriginal child deaths

The rate of death for Aboriginal children is 84.4 deaths per 100 000 Aboriginal children over the 2005-16 period.

The death rate for non-Aboriginal children is 29.1 deaths per 100 000 non-Aboriginal children over the same period.

In the period 2005 to 2016, Aboriginal children constituted only 4% of the population of South Australian children, but they accounted for 12% of child deaths.

Figure 7: Child deaths by age, cause of death and cultural background, South Australia 2005-16



Causes of death that were pending a determination by the Coroner are not included. Not-natural deaths include deaths due to transport, deliberate acts by another, fire, drowning, suicide, accident, medical misadventure and neglect. All data from CDSIRC database.

Aboriginal infants are more likely to die from undetermined causes, including SIDS, than are non-Aboriginal infants - these causes of death are often associated with unsafe sleeping environments (See Section 1.5.1). In the 5-10 year old age range, Aboriginal children are more likely to die from injury-related causes than non-Aboriginal children. Aboriginal young people 15-17 years old are more likely to die from not-natural causes – predominantly transport crashes[11].

[11] *See Tables 16 & 17 Section 4 for detailed information about the demographics and causes of death for Aboriginal children in South Australia, 2005-16*

1.4. Deaths of children with a disability

Families caring for children with a disability face significant challenges in accessing services and support for their children. Information on all deaths of South Australian children is reviewed each year by the Committee to determine whether a child's daily activities had been significantly limited due to a disability. Sections 3.9 and 3.10 provide further information about the classification of disability and its subtypes.

Reviewing the deaths of children with disability - eleven children with disability who died while under the guardianship of the Minister 2005-2015

The Committee examined the circumstances of eleven children with disabilities, who were under the guardianship of the Minister at the time of their deaths.

Arising from this review, the Committee provided the Minister with a list of the fundamental, systemic building blocks which must be in order to provide appropriate services to this most vulnerable group of children.

All of the children were severely disabled and, at the time of death, ranged in age from three months to seventeen years. Seven of the eleven children were Aboriginal.

At the time of their deaths, five of the children lived in metropolitan Adelaide, four lived in inner regional areas, and two lived in outer regional areas (including one in another State).

Issues identified in the review

In this review, the Committee found that 'good outcomes' for children with disability could be identified through:

- Improvement in quality of life and/or length of life
- More stable health – eg, a decrease in frequency and/or severity of seizures, and in the incidence of allergies
- Improvement in audio, visual and tactile responses and communication skills
- Better emotional health – more settled, fewer and less severe aggressive outbursts
- Developmental progress.

Good outcomes were achieved through:

- Respect for the centrality of the child or young person by ensuring that:
    - their needs, rather than the needs of the system, were central to planning with their voice and views acknowledged and included in decision-making
    - systems were responsive to their needs
    - a whole-of-life approach was taken (including psychosocial as well as physiological factors), when surgical and other medical interventions were being proposed.
- Stable care that:
    - minimises the number of placements
    - identifies committed carers, and provides appropriate training around the child's needs.
- Support of child and carers through active case management that provides for:
    - educational and employment, health, emotional and behavioural needs; relationships with the carer and connection with family and culture; and legal issues
    - the appointment of a key worker to coordinate the activities of all services required in the management of the child's care.
- Presence of an advocate
    - a person/s who will facilitate or encourage sound decision-making regarding placement, health assessments, medical/surgical intervention, end-of-life planning, and all other requirements of the child, with the best interests of the child in mind.
- End-of life-planning
    - palliative care planning that provides the soundest care to the child, and is considerate of carers, parents, siblings, and the staff of support agencies
    - timely palliative care and end-of-life planning, that has appropriate orders, such as for non-resuscitation, in place before they are 'needed'
    - that takes cultural considerations into account in end-of-life planning.

The review of these deaths observed that a child's quality of life was poorer when:

- they were left too long in unsafe or neglectful family or care environments
- they had no-one acting in, or advocating for, their interests
- decisions about surgical interventions were made largely on the basis of one aspect of their health or behaviour, ie, physiological need, rather than the inclusion of psychosocial factors
- there was little or no collaboration between service providers
- comprehensive health assessments were not regularly undertaken
- care-providers did not have enough information about a child's condition, resulting in uninformed decisions about their day-to-day management; or were not adequately qualified, trained, and/or supervised to deal with a child's challenging health problems and behaviours.

The review also observed that, when a child was removed from the care of their family, there was little follow-up support provided for their siblings, who may have been left in unsafe and neglectful circumstances.

The Committee submitted this review in June 2017 and awaits a response from the Minister.

Monitoring issues about children with disability

In the 2015-16 Annual Report, the Committee published several recommendations it had made that related to the work of Disability SA and that agency's interface with the National Disability Insurance Scheme (NDIS).

In that Report, the Committee outlined its concerns about the ways in which the NDIS will manage the delivery of services to children with disability where their families are vulnerable.

In the Committee's view, the NDIS must have pro-active and assertive engagement with families who actively avoid the NDIS planning process and subsequent services. Specifically, NDIS must have active follow-up of families not responding to the letter of offer to meet, and of families who have not spent their assigned service budget.

The Committee received a response from the Minister for Disabilities who advised that the Department for Communities and Social Inclusion's (DCSI) NDIS Reform Directorate was leading a project to look at how best to support people who are service resistant and/or have complex needs, to engage and remain engaged with the NDIS.

The Minister advised that Disability SA's Child and Youth services would track clients' transition to the NDIS, and follow up and support those who delay transition due to vulnerability or family complexity.

The Committee has written to DCSI requesting clarification about DCSI's role in maintaining an ongoing oversight of those children and their families who may not choose Disability SA as their service provider, and if they choose an alternative provider, who will be accountable to ensure that these vulnerable children receive appropriate and necessary services.

The Committee is to meet with representatives from Disability SA in August 2017 to discuss these issues.

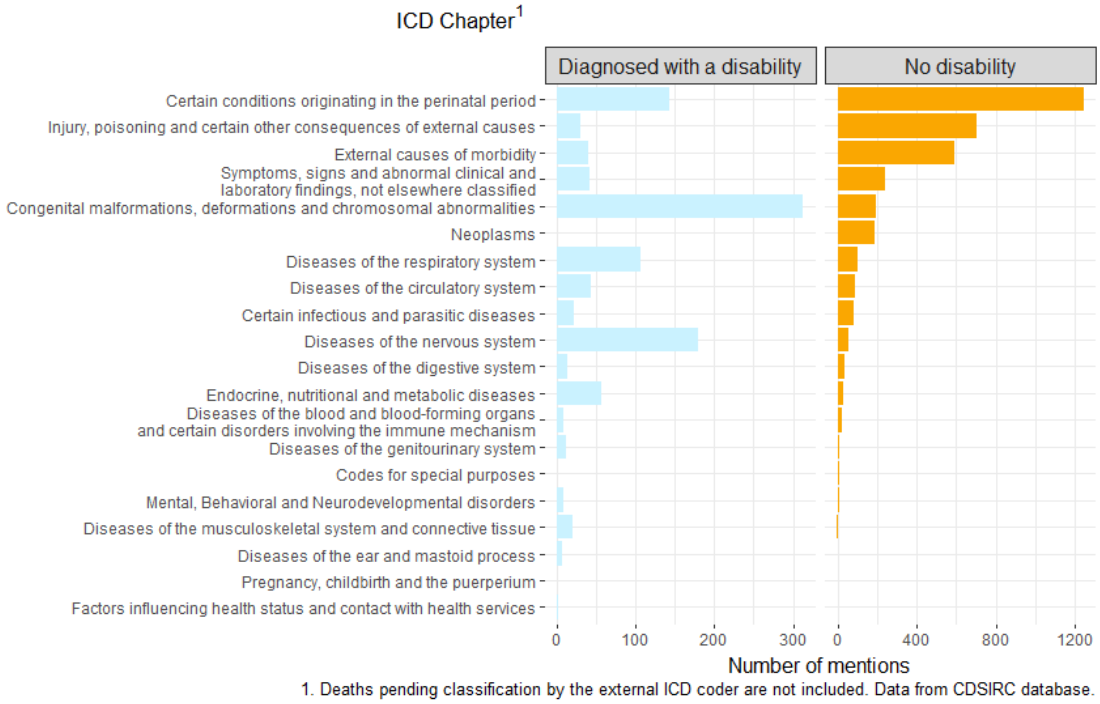
Analysing the number and causes of death for children with disability

For the period 2005-2016:

- 287 (21%) of the 1338 children who died aged 0-17 years had a disability that impacted their daily living.
- Approximately half of all children who died with a disability lived in the most disadvantaged areas of the State - SEIFA 4 and 5.
- Approximately one quarter of these children or their families had contact with the child protection system and of those, 11 were under the guardianship of the Minister when they died[12].

[12] *See Tables 18 and 19, Section 4 for detailed demographics about the deaths of children with disability, and deaths by disability type and age in South Australia 2005-2016*

Figure 8: Deaths of children with disability – causes of death by disability diagnosis, South Australia 2005-16



1. Deaths pending classification by the external ICD coder are not included. Data from CDSIRC database.

Figure 8, based on 'all mentions' of ICD-10 chapter codes[13] for causes of death, shows that the causes of death for children whose daily lives were impacted by a disability (as classified by the Committee), when compared with children with no disability:

- are more commonly associated with congenital and chromosomal abnormalities
- more frequently include diseases of the nervous system (this includes cerebral palsy and epilepsy) and diseases of the respiratory system.

[13] *For a definition of 'all mentions' of ICD-10 chapter codes see Section 3.8.1.*

1.5. Infant mortality

For the period 2005-2016:

- The infant mortality rate declined by 3.2% on average per year[14].
- Of the deaths of infants from illness or disease, 44% were younger than twenty-four hours.
- The most frequent causes of infant death from illness and disease were attributed to conditions originating in the perinatal period, and deaths due to congenital malformation, deformations and chromosomal abnormalities.
- Prematurity and its complications were often involved in the deaths of children with conditions originating in the perinatal period, and congenital malformations[15].

Further information about causes of death before 28 days of life is available in the infant mortality publications produced by the Pregnancy Outcomes Unit, SA Health[16].

Monitoring issues about infant deaths

The role of the Pregnancy Outcomes Unit (POU) SA Health

The Committee has maintained a close working relationship with POU. The proposed changes to POU resulting from a review of the Public Health and Clinical Systems Branch prompted the Committee to write in May 2017, to the Minister for Education and Child Development. The Committee requested the Minister seek an assurance from the Minister for Health that any changes made to the clinical expertise available to POU, or the positioning of perinatal death work within SA Health, would not affect the current, high-quality monitoring of outcomes for South Australian mothers and newborn infants. The Committee is deeply concerned that the proposed changes will compromise the highly effective, multi-disciplinary and multi-faceted monitoring role played by POU and consequently, the care of pregnant women and their newborn infants in South Australia.

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[14] *Information about infant mortality in South Australia is recorded in a number of different statistical collections including that of this Committee, the ABS, and the SA Maternal and Perinatal Mortality Committee. Each collection has different ways of registering the deaths of infants, resulting in slight differences in infant mortality rates.*

[15] *See Table 20, Section 4 for detailed demographics about infant deaths in South Australia 2005-2016.*

[16] *Maternal, perinatal and infant mortality in South Australia 2013 http://www.sahealth.sa.gov.au/wps/wcm/connect/90049b804aca21d584bbdc0b65544981/15116.2+Mortality+Report+2013+A5-FINAL.pdf?MOD=AJPERES&CACHEID=90049b804aca21d584bbdc0b65544981 Accessed September 2016.*

The Minister for Health responded to the Committee's concerns stating that:

These essential and important data collections will continue to be managed with clinical and medical expertise and oversight and with ongoing attention to the quality of the data collected.

The Minister also sought to reassure the Committee that its access to the information and advice provided by POU would not be compromised or limited by the proposed changes.

The collaborative case management of 'at risk' infants in birthing hospitals policy directive

The Committee has sought to remain aware of the changes to SA Health's 'At risk' infants policy directive as it continues to hold concerns about the outcomes for infants who are discharged from hospital into the care of a parent(s) whose capacity to keep the infant safe and well is compromised. The Committee's reviews have identified that, where there are risk factors that may indicate compromised parenting capacity, it is imperative that these risks be identified and appropriate supports provided, long before an infant is discharged from hospital. This preventive work requires collaboration between health and child protection agencies. The recently submitted review of Case 900 (Section 1.2.1) illustrated the essential need for collaboration in minimising the risk of infants being seriously injured or dying.

The review noted that it had taken at least four years to achieve consensus between the health and child protection systems and begin the implementation of agreed procedures in the 'at risk' infants policy directive. The review also noted that the policy's value to vulnerable infants and their families has yet to be demonstrated. The Committee recommended that DCP, the Department for Education and Child Development and SA Health evaluate the 'at risk' infants policy and procedure in light of the concerns outlined in the review of Case 900.

1.5.1. Sudden unexpected deaths of infants

Sudden unexpected death in infancy (SUDI) has been described as an 'umbrella' term that is used for all sudden unexpected deaths of infants younger than one year of age. The Committee follows the convention of the Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI) in the United Kingdom[17] and includes deaths subsequently attributed to infections, transport crashes, deliberate acts and drowning, as well as SIDS and unexplained deaths.

In the period 2005 to 2016, 171 infants have died suddenly and unexpectedly:

- The rate of death due to SUDI declined by 2% on average per year.
- 27 deaths (16%) were of infants less than 28 days, and 144 (84%) were infants older than 28 days at death.
- 114 (67%) of these infants lived in the State's most disadvantaged areas (SEIFA 4 and 5).
- 72 (42%) of these infants or their families, had contact with child protection services in the three years prior to their deaths[18]. SUDI deaths that involve unsafe sleeping environments are considered in Section 1.5.1.

Sudden unexpected infant deaths and safe sleeping

Sudden unexpected infant death often occurs when the infant is placed to sleep. At autopsy, the death may be attributed to causes such as illness, disease or suffocation. The majority of these 'sleeping deaths' remain unexplained and will be attributed to an undetermined cause (where no one manner of death is more compelling than other possible causes).

Sudden Infant Death Syndrome is a term used to describe the sudden and unexpected death of an infant who is less than one year of age, if the death occurs when the infant was placed to sleep and when the cause of death remains unexplained after a complete autopsy, review of the circumstances of death, and the infant's clinical history[19]. There is a long history in the medical and pre-medical literature regarding instances of infants dying in their sleep, and the definition of SIDS itself has changed

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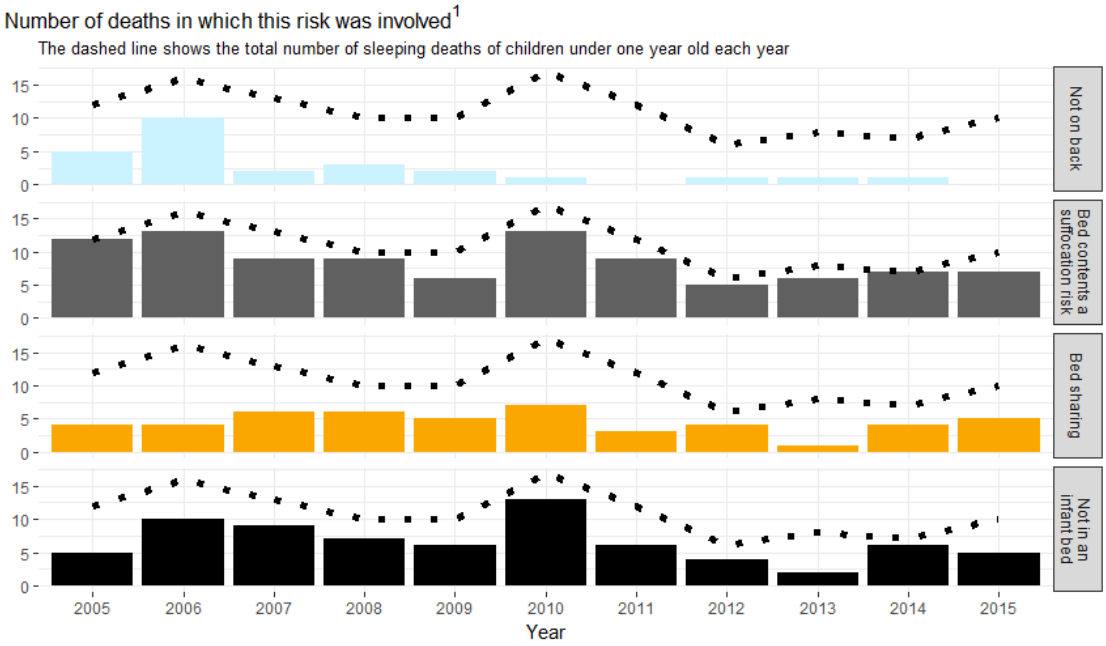
[17] *Fleming, P., Bacon, C., Blair, B. and Berry, P.J. (2000) Sudden unexpected deaths in infancy, the CESDI studies 1993-1996. London: the Stationary Office.*
[18] *See Table 21, Section 4 for detailed demographics about sudden unexpected infant deaths in South Australia 2005-2016.*
[19] *Moon, R.Y., Horne, R.S. & Hauck, F.R. (2007). Sudden Infant Death Syndrome. The Lancet, 370:1578-87.*

repeatedly since it was first postulated in1969[20]. This reflects changing evidence for the role of differing antecedents and the approaches of differing medical and child death specialists.

The following analysis involves the deaths of infants classified as SUDI in which the fatal event occurred when the infant was placed to sleep. Figure 9 shows the number of deaths in these circumstances that occurred in South Australia between 2005 and 2015 along with four risk factors known to increase the risk of SUDI[21].

Figure 9: SUDI deaths occurring during sleep by year and risk factor, South Australia 2005-16



1 .Unexpected sleeping deaths in infants are investigated by the Coroner and so take longer for a cause of death to be determined. Hence, this analysis does not include data from 2016 for which there are cases still under investigation by the Coroner. Data from CDSIRC database.

Figure 9 shows that since 2006, the number of SUDI deaths where children were placed on their front or side to sleep, have decreased. This is likely the result of ongoing influence of the 'Back to Sleep' campaign[22] that promoted placing infants to sleep on their backs.

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[20] *Tursan d'Espaignet, E., Bulsara, M., Wolfenden, L., Byard, R.W. & Stanley, F.J. (2008) Trends in Sudden Infant Death Syndrome in Australia from 1980 to 2002. Forensic Sci Med Pathol;4:83-90.*

[21] *http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/child+health/safe+infant+sleeping+standards*

[22] *De Luca, F., & Hinde, A. (2016). Effectiveness of the "Back-to-Sleep" campaigns among healthcare professionals in the past 20 years: a systematic review. BMJ Open, 6(9), e011435. http://doi.org/10.1136/bmjopen-2016-011435*

However, the continued presence of other unsafe sleeping practices, including placing other objects such as pillows in the bed with the infant, bed-sharing with the infant and sleeping the infant in a bed not specifically designed for infant-use, continue to present as risk factors for SUDI.

The Committee contributed to SA Health's review of the South Australian *Safe Infant Sleeping Standards*. These standards include points addressing the risks of bed sharing and the need to place infants in specifically designed cots[23].

However, Sections 1.2 and 1.3 of this Report showed that the number of deaths of infants labelled as 'undetermined, including SIDS' (which includes SUDI deaths occurring during sleep), was particularly high in vulnerable groups including ATSI families, and families who had previously had contact with DCP.

The Committee has made recommendations about the need to provide safe sleeping places for vulnerable infants in its Annual Reports since 2006-07.

A workable model for a public health campaign that addresses the disproportionate role of SUDI in the deaths of infants in disadvantaged circumstances, is the Safe Sleep program used in New Zealand[24]. This program focuses on preventing accidental suffocation using education about safe sleeping and the targeted provision of portable infant safe sleeping devices to families. In part due to the work of this program, postperinatal mortality in New Zealand fell by 29% between 2009 and 2015. Notably, this fall was greatest in Māori and other vulnerable populations[25].

The Committee supports the introduction of a safe sleeping program similar to the New Zealand program that targets vulnerable families in South Australia, and focuses on preventing infant 'sleeping deaths' using education about safe sleeping and the provision of portable infant safe sleeping devices.

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[23] *http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/child+health/safe+infant+sleeping+standards*

[24] *https://www.usc.edu.au/research-and-innovation/medical-and-health-science/nurture/research-projects/the-pepi-pod-program*

[25] *Mitchel, Cowa, Tipene-Leach (2016) The recent fall in postperinatal mortality in New Zealand and the Safe Sleep programme. Acta Paediatr. 105(11):1312-1320.*

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Monitoring issues about SUDI

Baby slings and the Kidsafe campaign

Since 2010, three infants have died while being carried or held in a baby sling. The Committee identified the issues associated with these deaths as:

- use of slings for very young (and premature) babies
- lack of understanding of basic safe use of slings – eg, baby's head completely covered, or not in view
- poor positioning
- use of the sling to breast feed – ie, baby held tightly against mother's body
- assumptions that baby is 'OK' because of the message that slings promote close contact and so baby is 'safe'.

In 2017-18 the Committee will contribute to Kidsafe SA's baby sling safety campaign which aims to improve knowledge and safe use of these devices.

Mandatory safety standards for cots

The Committee views the Australian Competition and Consumer Commission's (ACCC) mandatory safety standards for household cots as a key component of infant safe sleeping. The Committee wrote to the ACCC to support the introduction of additional mandatory standards for mattress firmness testing.

1.6. Deaths from illness and disease and the health system

In the period 2005-16, 67% of child deaths in South Australia were attributed to illness or disease. The vast majority of these deaths were of infants under one year of age, and were associated with problems related to labour and delivery, or to chromosomal abnormalities[26].

These deaths continue to be more prevalent in children from the most disadvantaged backgrounds (see Section 1.5).

Monitoring issues about deaths from illness and disease and the involvement of the health system

The Committee is interested in the role that the health system plays in recognising and responding to the challenges and vulnerabilities that might impact on a child's health, wellbeing and safety, and the ways in which this system interfaces and collaborates with other services such as disability, child protection and mental health services when responding to the needs of children and their families.

The Committee seeks to better understand the role that social workers based in major hospitals, such as the Women's and Children's Hospital (WCH), play in responding to the needs of vulnerable children and their families. At the suggestion of the Committee, the WCH is currently collating information about the provision of hospital-based social work services to a group of families of children identified in the Committee's reviews. This information will help the Committee understand the scope of the services provided, and has the potential to identify gaps in service provision.

In 2016, the Committee received a letter from the Minister for Health outlining an 'Escalation of Care' program, based on principles adopted in Queensland hospitals, commonly referred to as 'Ryan's Rule' in acknowledgement of the preventable death of a child within the hospital system there. Using this model, patients or their families/carers are able to activate an 'escalation of care' by using bedside phones that connect to the switchboard to call 33#, the standard emergency number used across SA Health.

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[26] *See Table 22, Section 4 for detailed demographics about deaths from illness and disease in South Australia 2005-2016.*

In a recent inquest, the Coroner noted the introduction of the Escalation of Care System, and commented *'that there would also be a need for a similar strategy to be implemented in respect of patients who have been discharged or where the family either continues to remain concerned about their child or where the concerns re-emerge for whatever reason'*.

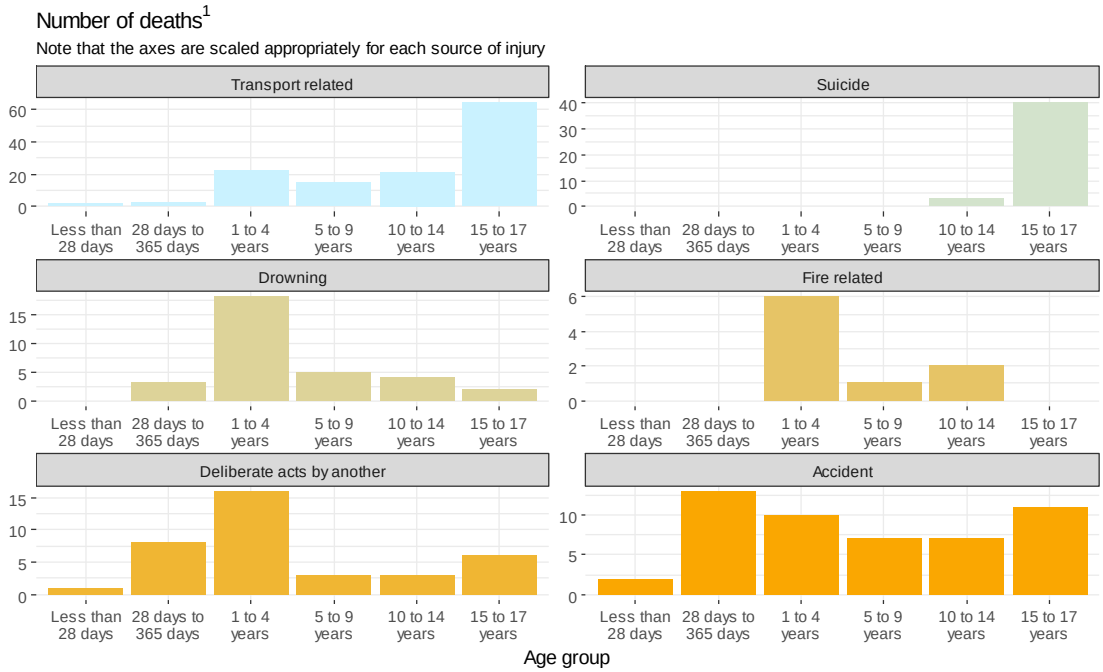
Another issue emerging from this and another recent coronial inquest, is the health system's management of continuity of care following the discharge of sick children from emergency departments, and how it responds to the re-presentation of those children. In these inquest findings, the Coroner recommended that the WCH *'consider the implementation of an information campaign to inform parents of the importance of continuity of care, and warning them about the risks involved in breaking that continuity, with a view to encouraging them to return to the Women's and Children's Hospital if they have any doubts about subsequent care, regardless of whether they believe the child is getting worse, or merely not getting better'*.

When children are very ill, parents must be able to trust the expertise of health professionals. The Committee is not certain whether strategies that rely on the decisions made by parents in difficult and distressing circumstances will contribute to the prevention of child deaths. It will be necessary for SA Health to evaluate the effectiveness of its strategies and determine whether they are contributing to better outcomes for sick children.

1.7. Injury-related deaths and child safety

In this section, 'injury-related' deaths include those deaths the Committee has classified as transport-related, due to drowning, a deliberate act by another person, fire-related deaths, accidents (falls, suffocation and asphyxiation, poisoning) neglect and medical misadventure. In other sections of the report, these deaths have been referred to as 'not-natural' deaths.

Figure 10: Injury-related child deaths by age and source of injury, South Australia 2005-16



1. Other sources of injury including medical misadventure and neglect had too fewer cases for this analysis. Data from CDSIRC database.

These figures show several aspects of deaths due to injury:

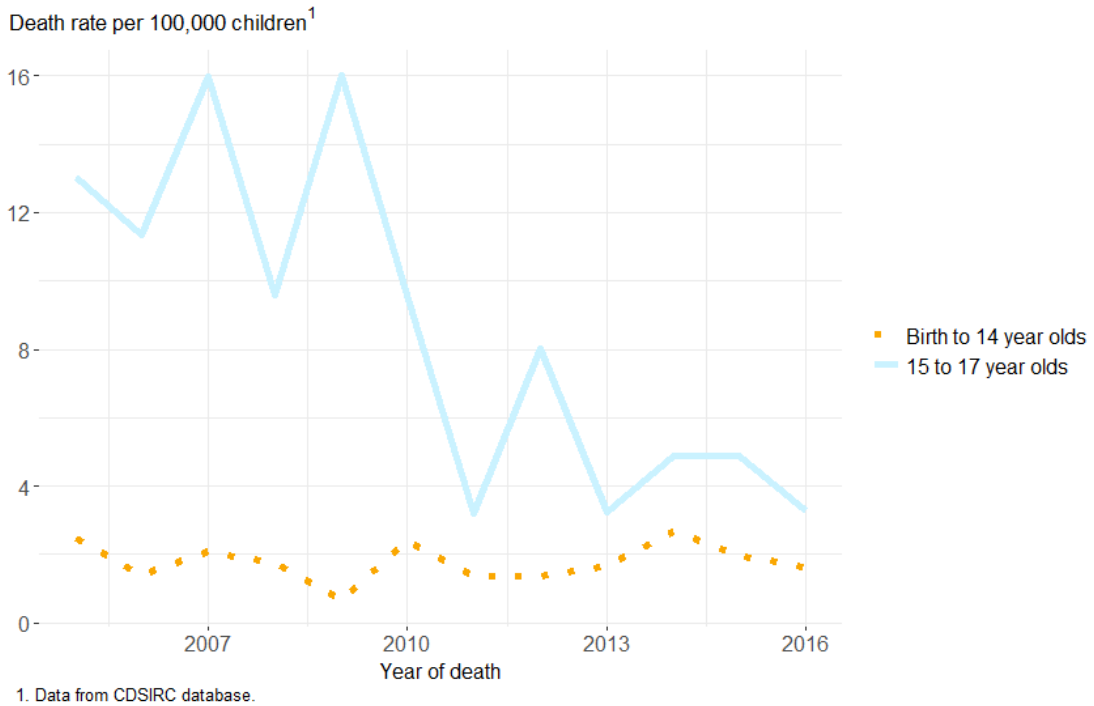
- The period between one and four years of age is a time of particular vulnerability for children. Of particular note are deaths due to drowning or a deliberate act by another, which both peak in this age group.
- Fire-related deaths occurred between the ages of one and 14 years.
- The age range during which deaths due to accidents are most prevalent is 28 days to one year. However, the circumstances of these deaths are quite different to those which occurred in the 1-4 year age group. Of the 13 deaths of children aged 28 days to one year classified as accidents by the Committee, 11 died after being placed to sleep. This was not the case for any of the one to four year olds.

- Transport-related deaths are the most common cause of injury-related deaths. The highest number of deaths occur in the 15-17 year old age group in addition to a higher number of deaths for one to four year olds (see Section 1.7.1). The deaths in these two age groups share some characteristics but differ on others. Of the 22 deaths of one to four year olds classified as transport-related, 21 involved a road vehicle. Of these, the child was a passenger in the car in 14 cases and was outside the car in seven cases. Of the 62 deaths of 15 to 17 year olds classified as transport-related, 60 included a road vehicle. Of these deaths, 28 were the driver, 25 were a passenger, six were pedestrians, and one was a cyclist.
- In both of these age groups there are more male deaths than female deaths: 14 male to 8 female deaths in the 1-4 year old age group and 43 male to 19 female deaths in the 15-17 year old age group.

1.7.1. Transport-related deaths

The number of transport-related deaths of 15 -17 year olds has declined by 6.2% on average per year.

Figure 11: Transport-related child deaths by year of death and age group, South Australia 2005-16



There are likely to be multiple causes driving the distinctly lower death rate due to transport events in this age group. However, the Committee would like to draw particular attention to the positive work of the Department of Planning, Transport and Infrastructure in implementing a series of reforms for L and P plate licencing in 2010 that is likely to have had a positive impact.

These initiatives were:

- Increased minimum time required on a learner's permit from 6 to 12 months for drivers under age 25.
- Increased minimum supervised driving time for learner's permit holders to 75 hours (including 15 at night).
- Court required to consider a client's driving record before determining an appeal.
- Tightening of curfew conditions for novice drivers returning from a serious disqualification (no passengers other than a qualified supervising driver).
- The offer of a Safer Driver Agreement option for disqualified provisional drivers.
- Increased maximum speed limit for a learner permit holder, from 80 km/h to 100 km/h, where speed signs permit.
- A penalty of 2 demerit points instead of license disqualification for failure to display L and P plates.
- Provisional (P1 and P2) drivers under 25 years of age restricted from driving high-powered vehicles[27].

Monitoring issues about child safety and transport crashes

The Committee wrote to the Centre for Automotive Safety Research (CASR) seeking advice about making rural roads safer for young children to cross.

CASR pointed out that the largest determinant of injury outcome for child pedestrians is usually based on where the head strikes the car, and in the case of a child the head is still likely to strike rigid components of the car. CASR suggested that reducing the speed of traffic will improve the likelihood of survival for pedestrians, but the outcome for child pedestrians will still be less favourable. CASR advised two ways of improving safety for child pedestrians in both urban and remote settings:

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[27] *http://mylicence.sa.gov.au/my-car-licence/graduated-licensing-scheme/gls-history, accessed October 2017*

- the widespread use of traffic calming treatments that guarantee safer speeds where children are present; and
- the trial and development of 'intelligent' road signage that is triggered when children are present.

The Committee wrote to the Minister for Education and Child Development, strongly endorsing the measures suggested by CASR as the best ways of reducing child pedestrian fatalities.

1.7.2. Suicide

For the period 2005-2016, forty-three deaths were attributed to suicide. Forty of these deaths (93%) were of young people aged 15-17 years and 29 (67%) were male. Eight of the 43 (19%) were Aboriginal.

Reviewing deaths attributed to suicide - the life chart review of suicide deaths

The Committee has reviewed 37 of these 43 deaths using the 'life chart' methodology adapted from the work of Fortune, Stewart, Yadav and Hawton (2007)[28]. Many reviews of deaths attributed to suicide examine proximal events and potential triggers, however the Committee found the life chart methodology, which considers the life history of each child, to be a particularly useful way of identifying opportunities for prevention and intervention. For example, the Committee has recently noted that the media has associated bullying with suicide in young people. To date, bullying has not been apparent as a significant, proximal factor in any of the cases that have been reviewed.

The life chart review has identified three groups, each with a unique set of factors associated with the life histories of the young people involved. Seventeen of those who suicided had emerging mental health problems, such as depression and anxiety, sometimes starting several years before their deaths. In contrast, the life charts of 11 other young people, all males, showed a pattern of multiple and complex challenges in their lives from when they were very young, including poor early attachment relationships, and learning and behavioural difficulties at school. In the years before their deaths, these young people typically became disengaged from family, education and social supports. The life histories of a third, smaller group of young people

[28] *Fortune, S, Stewart, A, Yadav, K, and Hawton, K (2007), Suicide in adolescents: using life charts to understand the suicidal process. J of Aff Disorders, 100, 199-220.*

suggested that they were functioning well in their lives, with risk factors harder to determine.

Intervention strategies for youth suicide are often focused on the provision of youth mental health services and clinical care (Robinson et al. 2016)[29]. The Committee, however, has advocated for a broader range of prevention strategies, which are targeted specifically at the each of the groups and the issues that the life chart reviews have identified. This approach is supported by recent Australian research which found that for 14-15 year olds, the odds of a suicide attempt were greater among those who reported, in the previous 12 months: self-harming; gender identity problems; and involvement in crime or property offences. In addition, this study found that among those who attempted suicide, a greater proportion had conduct, peer and emotional problems and hyperactivity in their early or pre-teen years[30].

Based on its own reviews and this recent Australian research, the Committee will continue to advocate for, and recommend, a broad scope of intervention and prevention activities, as well as looking for evidence of the efficacy of new and emerging activities for example, the use of:

- 'mobile apps' to support those in crisis, and for peers and friends
- suicide awareness training for young people
- multi-faceted community-based responses – but only if they have components developed in consultation with, and specifically targeted at, young people.

Monitoring issues about suicide prevention and the mental health of young people

In 2016-17, the Committee provided feedback on the *Child and Adolescent Mental Health Model of Care* and the *South Australian Suicide Prevention Plan 2017-2021*.

Child and Adolescent Mental Health Model of Care

The Committee's concerns, overall, with the proposed model of care were:

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[29] *Robinson, J., Baily, E., Browne, V., Cox, G, & Hooper, C. (2016)* Raising the bar for youth suicide prevention. *Melbourne: Orygen, The National Centre of Excellence in Youth Mental health.* https://www.orygen.org.au/Policy-Advocacy/Policy-Reports/Raising-the-bar-for-youth-suicide-prevention/orygen-Suicide-Prevention-Policy-Report.aspx?ext=.

[30] *Daraganova, G (2016)* Self-harm and suicidal behaviour of young people aged 14-15 years. *Australian Institute of Family Studies. LSAC Annual Statistical Report 2016.* http://www.growingupinaustralia.gov.au/pubs/asr/2016/asr2016f.pdf

- Availability of resources – both financial, and in terms of professional expertise. There was no indication in the proposed model about the capacity of the Child and Adolescent Mental Health Service (CAMHS) to meet the needs of the populations it has prioritised: children with complex mental health issues; ATSI children; children under guardianship.
- Child-centred – despite stating the intent of the model was to be 'child-centred', the Committee could find little evidence that the rights and voice of children and young people had been considered or factored into the ways in which services would be planned, delivered, or evaluated.
- State-wide service – the Committee was concerned that the model was essentially 'metro-centric' and there was little evidence to suggest what the 'reach' into rural and remote areas would be.
- Transition and continuity of care – the Committee is concerned about the ongoing difficulties CAMHS is experiencing in the provision of services to young people over the age of 16 years. The Model of Care refers to a proposed 'Youth System of Care', which the Committee requested more details about, including the philosophy of service delivery, and more importantly whether it would be located within CAMHS or the adult mental health care system.

South Australian Suicide Prevention Plan

In relation to this Plan, the Committee concluded that:

*'The plan does not adequately address issues for **at risk** young people, especially those who are not identified as 'suicidal' prior to taking their own life, and those who are disengaged from family, school and community.'*

The Committee made the following observations about the Plan:

- It is focused on intervention activities based on individuals already identified as at risk of suicide (some young people, up until the time that they take their life, do not appear to be 'suicidal').
- It assumes that there are 'communities' of people who represent groups of suicidal people and that work can be done collaboratively with these communities (young people who suicide are often isolated in terms of school, family and friends).

- It assumes that people affected by suicide, or who are suicidal, are able and willing to be active participants in intervention activities (young people often do not identify, or are not identified as 'suicidal' or 'at risk' prior to suiciding).
- It assumes that people will seek help (young people rarely seek help).
- It is adult-focused.
- It makes claims about the effectiveness of, for example, a 'suicide registry' and 'suicide prevention networks' without providing evidence for these statements/assumptions (including no evidence about their effectiveness for young people, or how young people might be included in suicide prevention networks).

A mental health plan for South Australia

Committee members met with the Commissioner for Mental Health, and provided their views about key issues in the development of a mental health plan for South Australia, in particular:

- the importance of locating mental health services for young people with CAMHS, not within adult mental health services
- the issues raised about the CAMHS model of care, and the importance of supporting children and young people at transition points in their lives
- the importance of continuity of care (eg, when young people at risk of suicide are discharged from hospital).

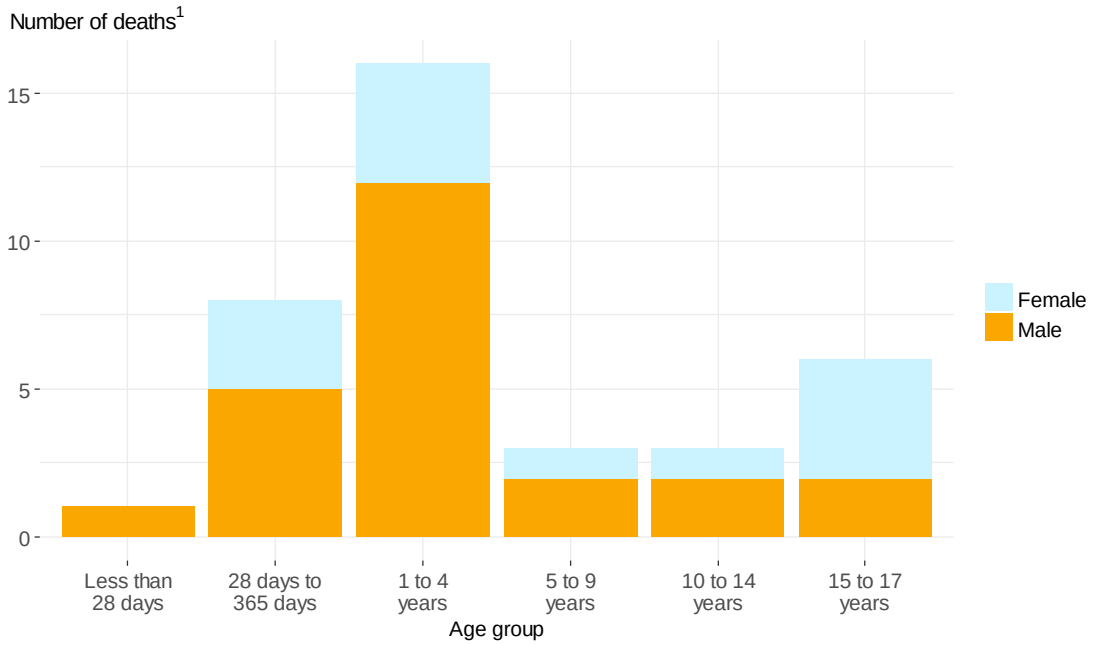
The Committee will continue to liaise with the Commissioner.

1.7.3. Deliberate acts by another causing death

In the twelve year period from 2005 to 2016, a deliberate act by another person has resulted in the deaths of 37 children. The Committee is currently reviewing ten of these 37 deaths where the death resulted from a deliberate act by a parent.

Figure 12 shows that children 1-4 years of age are at greatest risk of death from this cause, and that the majority of these children are males.

Figure 12: Child deaths from deliberate acts by another person, by age and sex of victim, South Australia 2005-16



1. Causes of death that were pending a determination by the Coroner were excluded from this analysis. Several deaths involved more than one perpetrator. Hence, the number of perpetrators is greater than the number of victims. Data from CDSIRC database.

1.7.4. Reviewing child injury-related issues - review of three cases of hot water scalding

Between February and May 2015, three young children were admitted to the Women's and Children's Hospital with scalding injuries. Each child's injuries had been caused by hot water from a bath or shower tap.

Organisations involved in the prevention of childhood injuries[31] [32] consistently provide the following information about hot water scalding:

[31] *Kidsafe SA http://www.kidsafesa.com.au/__files/f/16089/RP51_Burns_and_Scalds_FS.V1.6.WEB.pdf*
[32] *Public Health Association Australia*

- The higher the water temperature the shorter the exposure time required to produce a full thickness skin scald.
- At 60 C hot water will cause a full thickness burn in less than 5 seconds.
- At 50 C it will take at least 5 minutes to cause a full thickness burn.
- One of the highest risk groups for scalding is young children under four years of age.

The WCH statistics indicate that scald injuries account for approximately 60% of burn injuries seen in the paediatric population, with the most at risk group being children 13-24 months old[33].

Having reviewed these cases, and the current regulations for the installation of water heaters (AS/NZ Standard 3500.4), the Committee concluded that two immediate steps could be taken to reduce the likelihood of children being scalded by water that is too hot:

- The introduction of regulations in South Australia that required temperature control for any replacement water heaters (regardless of the date the house was built).
- A commitment by Housing SA requiring temperature control for any replacement water heaters, (regardless of when the house was built).

The following recommendations were made:

Table 4: Review – Three cases of hot water scalding - recommendations

Recommendation 1

The Committee recommends that the Minister for Education and Child Development write to the Australian Building Codes Board (ABCB), requesting amendment of the Plumbing Code for South Australia to require temperature control for replacement water heaters, regardless of the age of the property.

Recommendation 2

The Committee recommends that the Minister for Education and Child Development write to the Minister for Housing, requesting that he direct Housing SA to commit to the installation of temperature controlled replacement water heaters, regardless of the age of the property.

[33] *Personal communication from Bernard Carrey Medical Head of Burns, WCH 2016*

The ABCB has replied to the Committee's letter seeking changes to the regulations, indicating that it has been undertaking work to achieve a nationally consistent standard on the matter of replacement water heaters, including a consultation about the impact of changes to the standard, and that it will consider the Committee's advice in the development of the nationally consistent standard.

Monitoring issues about child safety

Drowning and inflatable swimming pools

In 2015, the Committee corresponded with the Office of Consumer and Business Affairs (OCBA) regarding regulation of the sale of inflatable swimming pools.

In November 2016, OCBA informed the Committee that 'portable pool safety messages' would be incorporated into the annual *Safe Summer* education safety messages. The Committee was encouraged that the particular dangers of unfenced inflatable pools were being recognised, but it would still like to see consideration given to regulatory mechanisms at point of sale such that the owners of inflatable pools, sold with filtration devices, would understand that they were obliged to comply with pool fencing legislation.

The Committee has recently written again to OCBA asking for its assessment of the impact of the summer safety campaign messages, as OCBA indicated that the effectiveness of this campaign would inform any future decisions about point of sale recommendations.

Playground safety

A young child died when a piece of playground equipment fell onto him. This death raised a number of issues about the leasing arrangements between local councils and, for example, sporting clubs, if playground equipment is present, or subsequently installed, on the grounds being leased by the club. The Committee wrote to the Minister requesting that its recommendations about inspection and maintenance issues in leasing arrangements be forwarded to the Minister for Local Government. Subsequently, the Local Government Association has produced a circular that highlights the issues about the leasing arrangements identified by the Committee, requesting that councils take note of the findings, and take action where necessary.

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Section Two

Committee matters

S52W – Committee's reporting obligations

2) The Committee must, on or before 31 October of each year, report to the Minister on the performance of its statutory functions during the preceding financial year.

Children's Protections Act, 1993

2. Committee matters

2.1. Legislation and purpose

The Child Death and Serious Injury Review Committee was established by the *Children's Protection Act, 1993* in February 2006. It was an initiative arising from recommendations made in *Our best investment: a State plan to protect the interests of children* (Layton, 2003).

The role of the Committee is to contribute to the prevention of death or serious injury to children in South Australia.

The Committee reviews the circumstances and causes of death or serious injury to children, and makes recommendations to Government that may help prevent similar deaths or serious injuries. Recommendations suggest changes to legislation, policies, procedures or practices.

2.2. Committee matters 2016-17

The Committee met eleven times in 2016-17. Each member belongs to one of the four screening teams (see Figure 13) and each of these teams met on additional occasions as required. In-depth reviews were undertaken by review teams drawn from the Committee, meeting as required to plan and complete each review.

Five new members joined the Committee in 2017: Dr Mike Ahern – legal practitioner; Ms Ann-Marie Hayes from the Department for Education and Child Development; Ms Pam Hemphill from the Department for Child Protection; Mr Phil Robinson from SA Health, and Ms Kerrie Sellen, an advocate for young people.

The Committee continued to work across the following areas:

- The timely and accurate collection of information about the circumstances and causes of child deaths and serious injuries.
- Screening the circumstances and cause of each child death in South Australia, and identifying systemic issues to be addressed through the review process.
- Undertaking reviews of deaths and serious injuries to identify systemic issues, and making recommendations to the Minister about systemic changes that will contribute to the prevention of similar deaths or serious injuries.

- Monitoring the progress of the implementation of recommendations, including supporting and contributing to prevention-based activities concerning child deaths and serious injuries.
- Contributing through its Annual Report, to Government and community knowledge, understanding of the causes of child deaths and serious injuries, and the efforts that should be made to prevent or reduce deaths or serious injuries.
- Reporting to the Minister on the performance of its statutory functions.
- Maintaining links with interstate and national bodies undertaking similar work.

2.3. Governance and support

The Committee reports to the Minister for Education and Child Development who has responsibility for the administration of the *Act*. The Chair has met with Minister Susan Close MP on a number of occasions throughout 2016-17.

The Committee's administrative, financial and human resource management is overseen by the Department for Education and Child Development. The Committee was supported by:

Dr Sharyn Watts	Executive Officer
Ms Rosemary Byron-Scott	Senior Project Officer (P/T)
Ms Una Sibly	Senior Project Officer (P/T)
Dr Owen Churches	Information Coordinator (from June 2017)
Ms Nikki Kearney	Administration and Information Officer (from November 2016)

2.4. The ANZCDR&PG

In 2015-16, the responsibility for chairing the Australian and New Zealand Child Death Review and Prevention Group (ANZCDR&PG) passed to the Chair of the Child Death and Serious Injury Review Committee in South Australia, for a term of three years.

This change provided an opportunity to revisit the group's purpose, focus and goals through mechanisms such as: historical analysis of the group's achievements; a

member survey about current views; and in-depth workshop style discussion at the 2016 Annual Meeting on 8 April.

The meeting culminated in the group confirming its role of identifying, addressing and potentially decreasing the numbers of infant, child and youth deaths by sharing information on issues in the review and reporting of child deaths, and working collaboratively towards national and international reporting.

Members further agreed that their three priority areas should be:

- Sharing successes and supporting each other
- Elevating issues to the national agenda
- Undertaking comparative analysis in regard to child deaths.

Members also identified the need for both internally focused solutions (ie, using the meetings as a professional development opportunity for group members), and externally focused solutions (ie, initiating a website and making reports publicly available), to help achieve their goals within the constraints of increasing resource and budgetary pressures.

In April 2017 the Committee hosted the second of three annual national meetings for members of the ANZCDRPG. The meeting was held over two days and was attended by representatives from all States and Territories, and New Zealand. The National Children's Commissioner also attended. Issues discussed at this meeting included the sudden unexpected deaths of infants, suicide, perinatal deaths, the deaths of children with disability, and injury prevention.

The Committee agreed to coordinate the collection and analysis of data provided by each jurisdiction about sudden unexpected infant deaths, and the deaths of infants born to young mothers. The information about SUDI deaths will be used to trial a model of SUDI classification developed by the NSW child death review team, to develop a national picture of SUDI deaths, and contribute to understanding the key issues for prevention of these deaths.

Information about infants born to young mothers was forwarded to the National Children's Commissioner, and will form part of the evidence base of an inquiry into issues for young, vulnerable parents.

The Committee will host a two-day meeting in April 2018, prior to handing over the chairing responsibilities for this group to another member jurisdiction.

The Committee acknowledges with thanks, the support of the Minister for Education and Child Development which enables the Committee to host the annual meetings of this group in Adelaide.

2.5. Future directions

To fulfil its statutory obligations in 2016-17, the Committee will:

- Accurately identify deaths that provide opportunities to change legislation, policy or practice – in particular to advance its ability to analyse and assess the role of: culturally and linguistically diverse backgrounds; domestic violence; and alcohol and other drugs on child deaths.
- Recommend changes to improve the safety and wellbeing of children by undertaking reviews into deaths associated with asthma, unsafe sleeping environments, children whose parents had mental health issues, and children who were known to the child protection system and who died from natural causes.
- Monitor the implementation of recommendations including: those about strengthening supports systems for children under guardianship and for children with disability; the appointment of an Aboriginal Commissioner/Deputy Commissioner for children; evidence that the child protection system is responding more effectively to issues of neglect and cumulative harm; and product safety.
- Offer a contemporary and informed view about issues that impact on the safety and wellbeing of children including bills and amendments, and policies, procedures and models of care.
- Promote understanding of the scope and impact of child deaths in South Australia through the Committee's website, its Annual Report and through the Committee's involvement, at a national level, with the ANZCDR&PG.
- Promote the value of the outcomes and analysis of child death reviews to the policies and practices of key stakeholders.
- Support the development of members' expertise, investigate opportunities for data sharing, and undertake a review of the Committee's work.

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Section Three

Methodology

3. Methodology

3.1. Deaths included in the Annual Report

In Section 1, the number of deaths referred to are based on the calendar year: 1 January 2016 to 31 December 2016. Reporting by calendar year is consistent with the practices of the Australian Bureau of Statistics (ABS) and child death review teams in other States and Territories.

The date of death is used as the marker for its inclusion in the data set for that year.

In 2017, the Committee undertook an audit of neonatal child deaths in South Australia between 2005 and 2016. In this report, the Committee's analysis is based on the deaths of children up to 18 years of age who died in South Australia[34], including children who were normally resident elsewhere. The Committee accessed information about these deaths from several different sources: the Office of Births, Deaths and Marriages; POU; and the State Coroner.

In 2013, the Committee determined that the following deaths would be excluded from the annual report:

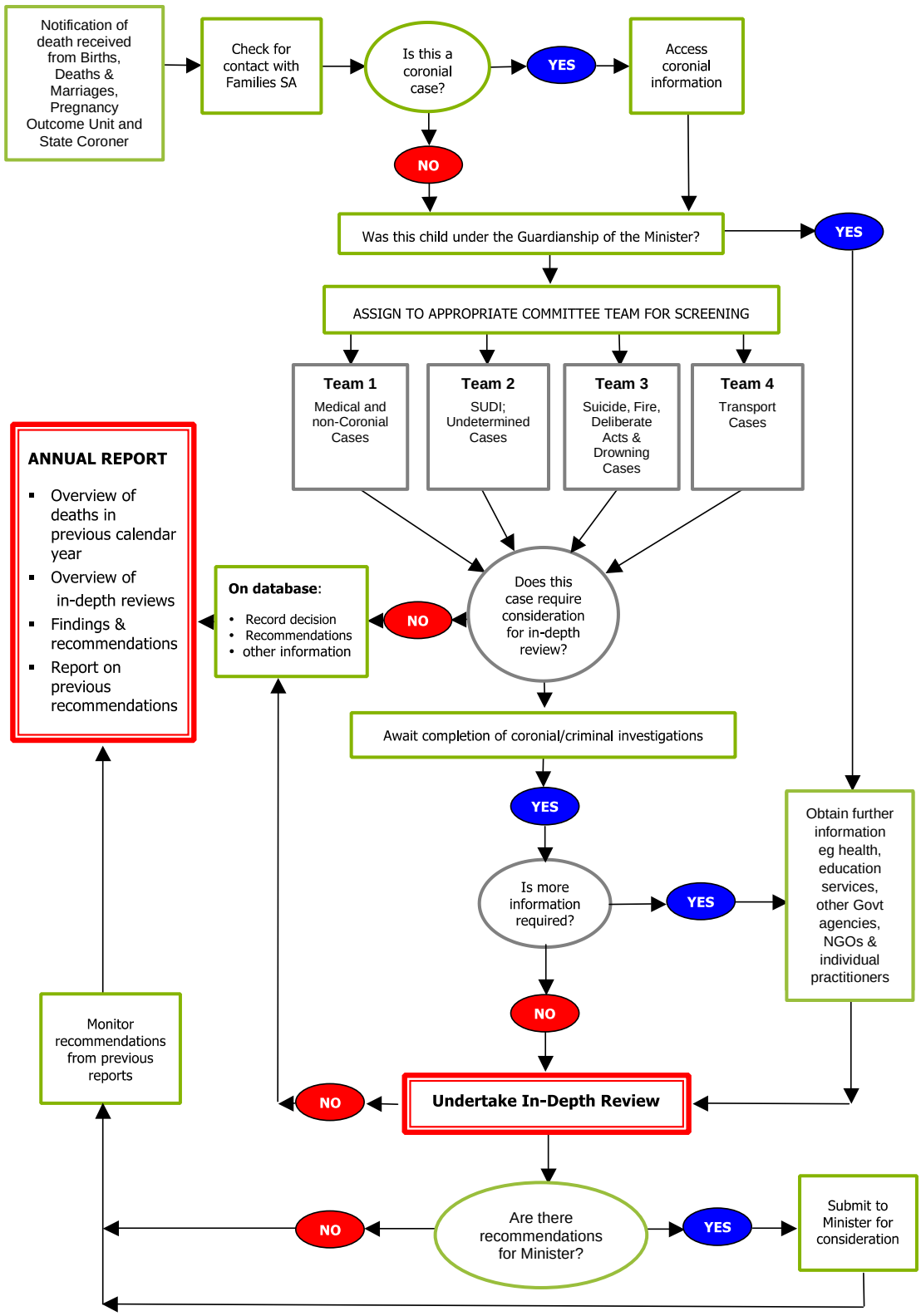
- Where the death of an infant occurred after a genetic termination of pregnancy as recorded in the Perinatal Death Certificate; or
- Where the death occurred after the spontaneous birth of an infant prior to 20 weeks gestation.

3.2. Access to information and the process for screening and review of deaths

Figure 13 indicates the key sources of information available to the Committee about the deaths of children in South Australia, and illustrates the processes the Committee uses to screen and review this information.

[34] *Deaths after a termination of pregnancy at any stage of gestation or after the spontaneous birth of an infant with a gestation of less than 20 weeks, are not included in the analysis.*

Figure 13: Committee's screening and reviewing process



3.3. The Office of Births, Deaths and Marriages

The Committee currently has a protocol with the Office of Births, Deaths and Marriages for the release of information about the deaths of children in South Australia. This information is provided to the Committee on a monthly basis.

3.4. The Office of the State Coroner

Under an arrangement with the Coroner, information is released to the Committee for each reportable death of a child aged under 18 years.

A further protocol outlines the exchange of information between the Committee and the Domestic Violence Research Officer attached to the Coroner's Office.

3.5. Release of information from government agencies

The Committee has protocols with SA Health, DECD and DCP, regarding release of information.

A further protocol outlines the exchange of information between the Committee and the SA Health Maternal and Perinatal Mortality Committee.

3.6. In-depth review process

Deaths screened by the Committee are assigned one of the following criteria:

- Not eligible for review - a case will be considered ineligible for review under s52S (2) of the *Act* if the child was not normally resident in the State at the time of death or serious injury or the incident resulting in death or serious injury did not occur in the State
- Not for review - a case may not require in-depth review if the screening of information available at the time indicates that there are no systemic issues arising from the death. These cases are assigned a category of death, eg, illness and disease, SUDI, transport, deliberate acts etc, and the details are kept on the Committee's database. They are included in the relevant Annual Report. They may be included in reviews in later years where features from cases aggregated over a number of years suggest that there may be systemic issues that can be addressed.

- Pending further information - in some cases the Committee requests further information before making a decision regarding in-depth review. The majority of cases awaiting further information are deaths attributed to illness and disease or health-system-related adverse events. The medical screening team maintains a high level of scrutiny over the circumstances of the deaths of children from these causes, especially where children have received health services, have had complex conditions requiring a high level of care, or where there has been an interface between medical, welfare and other systems.
- Pending completion of investigations - in accordance with Section 52S (4) of the Act, the Committee must not undertake a review if there is a risk that the review would compromise an ongoing criminal investigation and cannot undertake a review of a coronial matter until that inquiry has been completed. Criminal investigations are considered to be concluded once any person involved in the death or serious injury of the child has been sentenced, or once South Australia Police have determined they have no further interest in the matter. Investigations conducted by the Coroner are considered to have ended when the Coroner has made a finding into the cause of death or a coronial inquest has been completed.
- Awaiting assignment - in any reporting year, there are also cases ready for review but awaiting assignment of a 'review team' to undertake the review.

The number of cases pending investigation or review gradually decreases during any year as information is obtained, cases are finalised in the criminal and coronial systems, and the Committee makes a determination about further review and undertakes this review.

3.7. Reporting requirements

Section 52W of the *Act* outlines the reporting responsibilities of the Committee. It requires the Committee to report periodically to the Minister for Education and Child Development, and also to provide an annual report on the performance of its statutory functions during the preceding financial year.

The Committee submits a report to the Minister for Education and Child Development at the conclusion of each in-depth review. The report contains the Committee's recommendations about systemic issues that may contribute to the prevention of similar deaths or serious injuries.

3.8. The Committee's classification of cause of death

In Section 1, both the Committee's classification of the cause of death, and the ICD-10 codes have been used in the analysis and reporting of child deaths. In many cases, the Committee has multiple sources of information available about children (including health, welfare and education records), and is not limited to the causes of death recorded in post-mortem reports or death certificates. Accordingly, the Committee's classification for a particular death may vary from the ICD-10 classification.

At the time of classifying a death, the Committee will consider all available information. However in some cases further information may become available that will give rise to a change in the classification assigned to a particular death or group of deaths. Any changes will be noted as an addendum in the subsequent annual report. In addition, the Committee will continue to review its definitional guidelines in the light of available information.

Table 5: Committee cause of death classifications

Cause	Committee classification
Transport–related	Transport-related deaths include deaths resulting from incidents involving a device used for, or designed to be used for, moving people or goods from one place to another. These incidents may involve pedestrians and include railway or water transport. Incidents may occur on public roads or places other than a public road.
Accidents	Accidents exclude deaths attributed to transport incidents, fires or drowning. Also referred to as deaths from unintentional injuries, these deaths most commonly include accidental: suffocation, strangulation and choking, falls and poisoning.
Suicide	The Committee's definition of suicide is: *Taking one's own life, intending to do so.* The Committee defines a death as suicide if, after a thorough review of all available evidence, it is satisfied that the young person killed him or herself intending to take their own life. Since adopting this definition, three cases previously attributed to suicide have now been reclassified as accidental deaths, resulting from misadventure.
A deliberate act by another causing death	In previous years one of the categories of death due to external causes was known as 'fatal assault.' A 'fatal assault' was defined as 'the death of a child from acts of violence perpetrated upon him or her by another person'.[35] From time to time cases were included in that category which did not really fit the definition of a fatal assault, for instance, a death caused by the deliberate administration of a drug to a child without any intention of causing the child's death. Accordingly, the Committee considered that a category known as 'a deliberate act by another causing death' better described a range of deaths, including deaths from acts of violence, where a person, by whatever means, causes a child's death by a deliberate act. It is the Committee's view that a simple definition avoids the sorts of complications that would

[35] *Lawrence, R. (2004) Understanding fatal assault of children: a typology and explanatory theory. Children and Youth Services review, 26, 841-856.*

	inevitably arise if one sought to establish the intent of the person whose deliberate act results in a child's death. While a person's intent is obviously relevant to issues of criminal liability, for the Committee's categorisation of deaths this does not need to be considered. Similarly, there may be cases where the person who causes a child's death does so as a result of mental illness, leading to a Court finding of mental incompetence. Such cases are also included in this category. It will not always be possible, on the basis of the available evidence, to be certain that a child's death resulted from a deliberate act by another person. For instance a child may have serious head injuries causing death, but it is not possible to say that the injuries were deliberately inflicted as opposed to being caused by an accidental fall. In such cases, upon consideration of all the available evidence, the Committee will decide which is the most likely cause of death.
Neglect	The Committee defines neglect as 'a death resulting from an act of omission by the child's carer(s)' including: • Failure to provide for the child's basic needs • Abandonment • Inadequate supervision, and • Refusal or delay in provision of medical care. This definition can account for both chronic neglect and single incidents of neglect, or a combination of both.[36]
Health-system related	These deaths have been classified as such by the Committee based on written records which may not necessarily be complete. The Committee places a death in this category based on consideration of preventable aspects in the circumstances of the death and a focus on future prevention strategies rather than an investigation of the cause of death.
Sudden unexpected infant death	Sudden unexpected death in infancy (SUDI) has been described as an 'umbrella' term that is used for all sudden unexpected deaths of infants younger than one year of age. The definition of Sudden Unexpected Death in Infancy (SUDI) In December 2007 the Australian and New Zealand national meeting of child death review teams and committees agreed to work towards a common reporting framework that was based on the definition of SUDI proposed by Fleming et al. (2000).[37] The agreed SUDI definition is: Infants from birth to 365 completed days of life whose deaths: Criterion 1: Were unexpected and unexplained at autopsy; Criterion 2: Occurred in the course of an acute illness that was not recognised by carers and/or by health professionals as potentially life-threatening; Criterion 3: Arose from a pre-existing condition that had not been previously recognised by health professionals; or Criterion 4: Resulted from any form of accident, trauma or poisoning.
Sudden infant death syndrome	The criteria used to determine a death attributed to SIDS continues to be the San Diego definition proposed by Krous et al. (2004, see Table 21). Death rates for SIDS are reported per 100 000 livebirths.

[36] *Lawrence, R. & Irvine, P. Redefining fatal child neglect. Child Abuse and Prevention, 21, 1-22.*
[37] *Fleming, P., Bacon, C., Blair, B. and Berry, P.J. (2000) Sudden unexpected deaths in infancy, the CESDI studies 1993-1996. London: the Stationary Office.*

Table 6: Definition of sudden infant death syndrome

General Definition of SIDS*

SIDS is defined as the sudden unexpected death of an infant <1 year of age, with onset of the fatal episode apparently occurring during sleep, that remains unexplained after a thorough investigation, including performance of a complete autopsy and review of the circumstances of death and the clinical history.

Category IA SIDS: Classic features of SIDS present and completely documented

Category IA included deaths that meet the requirements of the general definition and also all of the following requirements.

Clinical

- > 21 days and < 9 months of age;
- Normal clinical history including term pregnancy (gestational age > 37 weeks);
- Normal growth and development;
- No similar deaths among siblings, close genetic relatives (uncles, aunts or first degree cousins), or other infants in the custody of the same caregiver).

Circumstances of Death

- Investigations of the various scenes where incidents leading to death might have occurred and determination that they do not provide an explanation for the death;
- Found in a safe sleeping environment, with no evidence of accidental death.

Autopsy

- Absence of potentially fatal pathologic findings. Minor respiratory system inflammatory infiltrates are acceptable; intrathoracic petechial haemorrhage is a supportive but not obligatory or diagnostic finding;
- No evidence of unexplained trauma, abuse, neglect or unintentional injury;
- No evidence of substantial thymic stress effect (thymic weight < 15g and/ or moderate/severe cortical lymphocyte depletion). Occasional 'starry sky' macrophages or minor cortical depletion is acceptable;
- Negative results of toxicologic, microbiologic, radiologic, vitreous chemistry and metabolic screening studies.

Category IB SIDS: Classic features of SIDS present but incompletely documented

Category IB includes infant deaths that met the requirements of the general definition and also meet all of the criteria for category IA except that investigation of the various scenes where incidents leading to death might have occurred was not performed and/ or >1 of the following analyses were not performed: toxicologic, microbiologic, radiologic, vitreous chemistry or metabolic screening studies.

Category II SIDS

Category II includes infants that meet category I except for > 1 of the following.

Clinical

- Age range outside that of category IA or IB (ie 0-21 days or 270 days (9 months) through to first birthday);
- Similar deaths among siblings, close relatives or infants in the custody of the same caregiver that are not considered suspect for infanticide or recognised genetic disorders;
- Neonatal or perinatal conditions (eg those resulting from pre-term birth) that have resolved by the time of death.

Circumstances of Death

- Mechanical asphyxia or suffocation caused by overlaying not determined with certainty.

Autopsy

- Abnormal growth or development not thought to have contributed to death;
- Marked inflammatory changes or abnormalities not sufficient to be unequivocal cause of death.

Unclassified sudden infant death

Includes deaths that do not meet the criteria for category I or II SIDS, but for which alternative diagnoses of natural or unnatural conditions are equivocal, including cases where autopsies were not performed.

Post resuscitation cases

Infants found in extremis who are resuscitated and later die ('temporarily interrupted SIDS') may be included in the aforementioned categories, depending on the fulfilment of relevant criteria.

*Krous, H. F., Beckwith, J. B., Byard, R. W., Rognum, T. O., Bajanowsky, T., Corey T., Gutz, E., Hanzlik, R., Keens, T. G. and Mitchell, E. A. (2004) Sudden infant death syndrome and Unclassified infant deaths: A definitional and diagnostic approach. Paediatrics, 114, 234 – 238.

3.8.1. The use of the ICD-10, Australian modification.

All deaths registered by the Committee are coded according to the ICD-10, Australian modification,[38] developed by the World Health Organisation. This classification is accepted as the international standard diagnostic classification for all general mortality and morbidity classification. However, it is recognised that it does not provide sufficient detail for some uses.

The Committee uses the ICD-10 to extend and provide detail for the classification of deaths due to natural causes. Where there is disagreement between the Committee and ICD-10 classification of death, the Committee classification is preferred. The Committee's classification of death follows the ICD-10 guidelines to ensure that all "diseases, morbid conditions or injuries which either resulted in or contributed to the death and the circumstances of the accident or violence which produced any such injuries" are recorded in the sequence of codes. An underlying cause of death is assigned following the ICD-10 guidance. In most analyses, only the underlying cause of death is used. Where the Committee has analysed 'all mentions' of the cause of death, all coded conditions are included in the analysis.

3.9. Deaths of children with disability 1-17 years old

The definition used to determine inclusion as the death of a child with disability for children 1–17 years old is:

- The child was over one year of age at the time of death
- The child's daily activities were limited because of their disability, illness, disease or health problem, and
- The child's daily activities were adversely affected for a period of six months or more.

Where the length of time during which the child's daily activities were adversely affected was unknown, the case was not included on the Register.

Cases where the child had a chronic health issue (eg, asthma, epilepsy, diabetes) were only included on the Register if other disabilities were present.

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[38] *World Health Organisation. International statistical classification of diseases and related health problems. - 10th revision, edition 2010.*
3 v. 2011 World Health Organisation, Geneva. Accessed at http://www.who.int/classifications/icd/ICD10Volume2_en_2010.pdf on 3 October 2017.

Some children had multiple types of disability, for example cerebral palsy and epilepsy. Multiple disability diagnoses were recorded for each child when they were identified.

Table 7: Committee definition of disabilities

Disability	Committee definition
Neurodegenerative diseases, genetic disorders and birth defects	This category included all instances of neurodegenerative diseases, genetic disorders and birth defects, including in-born errors of metabolism where the child's health deteriorates over time. Children with many of these conditions are likely to die as a result of their disease and they require significant care as their condition progresses.
Cerebral palsy	This category included all cases of cerebral palsy, which is a term used to describe a group of non-progressive motor function disorders that arise because of damage to, or dysfunction of, the developing brain. This permanent condition can affect body movement, muscle control, muscle coordination, muscle tone, reflex, posture and balance. It may also cause visual, learning, hearing, speech and intellectual impairments, as well as epilepsy.
Epilepsy	Using the guidelines developed to identify disability, this category only included cases where the frequency and severity of the child's epilepsy adversely affected their daily activities for a period of six months or more, or the child with epilepsy had associated disability. Epilepsy is a common disorder that is characterised by recurring seizures or sudden, uncontrolled surges in the normal electrical activity in all, or part, of the brain. While the Epilepsy Centre notes that epilepsy can mostly be controlled by taking medication and restricting daily living activities, epilepsy can be associated with sudden unexpected death.
Heart and circulatory problems	This category included all cases where a condition involving the heart or blood vessels was able to be identified, regardless of whether the condition resulted from an infection or from a birth defect. Children with conditions such as complex congenital heart defects or myocardiopathy are, without life-saving surgery such as a heart transplant, at higher risk of dying as a result of their heart or circulatory problems.
Intellectual disability	This category included all cases where the available information suggested that the child had some form of intellectual disability. It was identified as a specific category because it is a developmental disorder, and people living with such disorders have significantly more difficulty than others in integrating new learning, understanding concepts and solving problems.
Autism spectrum disorder	Autism Spectrum Disorder is a lifelong developmental disability that affects, among other things, the way a child relates to his or her environment and their interactions with other people. Where information was available indicating a diagnosis of ASD had been made, a child was placed in this category.
Other types of disability	This category accommodated all of the remaining disability types in children on the Disability Register. It incorporated cases where the child had conditions such as Epstein-Barr virus, systemic lupus and community acquired pneumonia. It also included cases where the available information was too limited to confidently assign the case to a specified category.
Cancer and 'disabling medical conditions'	Several approaches to the classification of cancers and other health conditions that may adversely affect a child's life for longer than six months have been taken by the Committee. In the 2012 Special Report on the deaths of children with disability, these deaths were included in the Disability Register. In 2013, these deaths were re-classified as 'disabling medical conditions' and no longer included in the Disability Register. The Disability team considered that the issues arising from these deaths were primarily about the medical management of these conditions rather than about issues arising from the disability caused by their impact on the child. These deaths will be reported as deaths from illness or disease.

3.10. Deaths of infants with a disability

There is a unique set of challenges associated with identifying disability in infants. A set of criteria has been developed by the Committee to identify the deaths of infants with a disability. Deaths are excluded from consideration if the underlying cause of death is:

- Prematurity alone
- Prematurity and maternal factors, or infection, haemorrhage, digestive or respiratory problems
- SIDS
- Undetermined or external causes of death
- Cancer
- Heart disease, including myocarditis and cardiomyopathy
- Congenital malformations of major organs such as heart, kidney and liver.

Once these cases are excluded, the ICD-10 underlying cause of death code is cross-referenced against a list of ICD-10 Codes that the Disability Review team[39] has confirmed as representing disability. These codes had previously been identified with reference to the codes used to identify disabilities in the 1-17 year age group. The remaining deaths are then reviewed by the Disability team and a decision made about inclusion in the Disability register based on the available information.

3.11. Aboriginal and Torres Strait Islander Status

The information received from the Office of Births Deaths and Marriages has an ATSI indicator for each case. The Committee has determined that, in the absence of any other form of reliable indicator of ATSI status, this indicator will be used.

[39] *The Disability Review team comprises three members of the Committee and includes a medical practitioner with in-depth knowledge about children with disability, a child psychologist and a social work consultant.*

3.12. Deaths of children in contact with the child protection system

To be included in this section of the report, the child or a member of their family must have had some form of contact with DCP or its predecessors, within three years of the incident resulting in their death.

The guardianship status of a child or parent is determined during this process, whether in South Australia or in another Australian State or Territory.

3.13. Usual place of residence

The information received from the Office of Births Deaths and Marriages indicates the 'last place of residence' of each child. This information is taken to indicate the child's usual place of residence for review and reporting purposes. The Committee acknowledges that this information may have been variously interpreted by the person giving the information, and may not reflect a consistent definition of a person's usual residence.

Each Annual Report records the number of cases where the information from the Office of Births Deaths and Marriages shows that the child's last place of residence was outside South Australia. However, regardless of where the child's usual place of residence may have been, if they died in South Australia, their deaths are included in the analysis, with the exception of the section of child deaths and socioeconomic disadvantage, which requires residency in the State for assignment to a SEIFA quintile.

3.14. ARIA+ Index of Remoteness and Accessibility

ARIA stands for Accessibility/Remoteness Index of Australia. The ARIA methodology was developed by the Australian Government Department of Health and Aged Care in 1977. Minor changes have been made to this original methodology, resulting in the ARIA+ Index of remoteness. This Index is a distance-based measure of remoteness[40]. It defines five categories of remoteness based on road distance to service centres: major city, inner regional, outer regional, remote and very remote. The very remote category indicates very little accessibility to goods, services and of opportunities for

[40] *AIHW (2004)* Rural, regional and remote health: a guide to remoteness classifications. *AIHW Cat no PHE 53, Canberra: AIHW http://aihw.gov.au/WorkArea/DownloadAsset.aspx?id=6442459567 Accessed September 2014.*

social interaction. ARIA+ Index is an indicator of the degree of geographic remoteness of an area and is a more accurate indicator of disadvantage than subjective labels such as 'rural' or 'country'.

3.15. SEIFA Index of Relative Socio-economic Disadvantage

The SEIFA (Socio-Economic Indexes for Areas) Index of Relative Socio-economic Disadvantage (IRSD)[41] draws on a variety of personal and household characteristics (available from the 2006 Census) to rank household and socioeconomic status. The IRSD is calculated to show the relativity of areas to the Australian average for the particular set of variables which comprise it. This average is set at 1000. Scores below 1000 indicate areas with relatively disadvantaged populations under this measure, and scores above 1000 indicate areas with relatively advantaged populations. In this report SEIFA IRSD scores are divided into five quintiles, with the least disadvantaged populations represented in quintile 1 and the most disadvantaged in quintile 5. The SEIFA IRSD score and quintile assigned to a child's residential postcode was obtained from the Australian Bureau of Statistics reports 'Census of Population and Housing: Socio-Economic Indexes for Areas, Australia 2011[42] and 'Census of Population and Housing: Socio-Economic Indexes for Areas, Australia 2006'[43]. For the years 2005-2008 in this Report, the 2006 Census estimate is used, and for 2009-16 the 2011 Census is used.

3.16. Death rates

Death rates have been calculated using Australian Bureau of Statistics population projections. For the purposes of calculating death rates for the period 2005 to 2016, an average annual population of 354 298.2 was used [44]. Children who died in South Australia, but whose usual residence was outside of the State, are included in all

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[41] *ABS* SEIFA Indexes *2011* http://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001. Accessed September 2014.
[42] *Australian Bureau of Statistics 2014, Census of Population and Housing: Socio-Economic Indexes for Areas, Australia, 2011, datacube: cat. no.2033.0.55.001, Accessed 3 October 2016,* http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/2033.0.55.001Explanatory%20Notes12011?OpenDocument
[43] *Australian Bureau of Statistics 2008, Census of Population and Housing: Socio-Economic Indexes for Areas, Australia, 2006, datacube: cat. no.2033.0.55.001, Accessed 3 October 2016,* http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012006?OpenDocument
[44] *3101.0 Australian Demographic Statistics, TABLE 54. Estimated Resident Population By Single Year Of Age, South Australia* http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Dec%202016?OpenDocument

calculations except the death rates of only those children normally resident in the State at the time of death.

For the purposes of calculating death rates for Aboriginal children, using the Estimates and Projections for Aboriginal and Torres Strait Islander Australians, an average annual population of 15 309.8 for the period 2005 to 2016 was used[45].

The Infant Mortality Rate (IMR) is calculated according to the deaths of children younger than one year old per 1000 live births in the same year. For the purpose of comparison in the tables in this Report, the IMR is represented as the deaths of children younger than one year old per 100 000 live births in that year. The South Australian Maternal, Perinatal Mortality Committee provided data about live births. Between 2005 and 2016, there were 237 058 live births in South Australia (provided as provisional data on 19 September 2017).

The rates of death for children whose families had had contact with DCP are calculated by dividing the number of children who died and whose families had contact with DCP, by the total population of children in South Australia. The Committee defines 'contact with DCP' to be any recorded contact in the three years prior to the child's death. It would be preferable to use the denominator 'all children whose family had had contact with DCP' to calculate the death rate as this would enable a comparison of the rate of death for children whose family had had contact with DCP, and those who had not. However, this information regarding the number of children who had contact with DCP from 2005-16, is not readily available. A prevalence rate only is presented in this report for the purposes of comparison over time, of the death rates of children whose families had been in contact with DCP.

Death rates within SEIFA quintiles are calculated using the total number of children aged 0-17 years in each SEIFA quintile. This information is provided by the ABS[46].

Death rates within the Accessibility/Remoteness Index of Australia (ARIA) categories are calculated using the total number of children aged 0-17 years in each ARIA category. This information is provided by the ABS[47].

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[45] *Australian Bureau of Statistics Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians*
[46] *Personal Communication 18 September 2015, Regional Population Unit, Demography, Australian Bureau of Statistics*
[47] .

3.17. Mapping

South Australian government departments and agencies have developed a consistent set of boundaries to define twelve administrative regions in the State. The relevant government region is assigned to each child's residential postcode[48]. Rates in each region are calculated using the following formula: the sum of child deaths in each postcode within a region, divided by the sum of the total population of children in the postcodes within each region, multiplied by 100 000. This information is used to generate maps of the distribution of child deaths within the State.

[48] https://www.sa.gov.au/topics/housing-property-and-land/building-and-development/land-supply-and-planning-system/south-australian-government-regions *Accessed 10 October 2016*

Section Four

Tables

4. Tables

Table 8: Child death rates[1] by year, South Australia 2005-16

Year	Number[2]	All	ATSI[3]	DCP[4]	IMR[5]	SUDI[6]	I&D[7]	Trans[8]
2005-2016	**1338**	**31.5**	**84.4**	**8.2**	**3.3**	**0.7**	**21.1**	**3.0**
2005	136	39.3	120.9	9.0	4.7	1.1	25.7	4.3
2006	119	34.4	83.5	8.7	3.4	1.1	19.6	3.2
2007	122	35.0	96.0	9.2	4.0	1.0	22.7	4.6
2008	114	32.6	74.0	7.7	3.2	0.7	22.3	3.1
2009	126	35.8	79.7	9.1	3.4	0.8	24.2	3.4
2010	117	33.2	52.2	9.1	3.6	1.0	22.1	3.7
2011	106	30.0	83.8	9.6	2.9	0.7	21.5	1.7
2012	99	27.8	89.3	7.9	2.7	0.3	19.9	2.5
2013	109	30.4	120.1	7.6	3.2	0.6	20.9	2.0
2014	96	26.6	93.7	6.6	2.7	0.6	18.0	3.0
2015	92	23.3	80.5	7.7	2.6	0.6	17.9	2.5
2016[9]	102	27.9	42.9	6.0	2.9	0.3	18.9	1.9

1 Rates have been calculated per 100 000 children using ABS population estimates for children between 0-17 years unless indicated otherwise.
2 Number of children who died in South Australia
3 Aboriginal children. Denominator: ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026
4 Children or their families who had contact with Department for Child Protection in the three years prior to their death
5 Infant Mortality Rate – rate per 1000 live births
6 Sudden and unexpected death of an infant - rate per 1000 live births
7 Death attributed to illness or disease
8 Deaths attributed to transport incidents
9 Cause of death was not known for 5 deaths in 2016 by 30 June 2016.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 9: Demographics of child death, South Australia 2005-16

	2005–07	2008–10	2011–13	2014–16	2005-16	Rate[1] per 100 000 2005-16
Total	**377**	**357**	**314**	**290**	**1338**	**31.5**
Sex						
Female	170	141	141	124	576	27.8
Male	207	216	173	166	762	35.0
Age Group						
Infants (<1 year)	226	203	178	166	773	326.0[2]
1-4 years	51	44	47	38	180	19.4
5-9 years	22	23	26	26	97	8.4
10-14 years	26	26	25	30	107	9.0
15-17 years	52	61	38	30	181	24.4
Cultural Background						
Aboriginal	43	31	46	35	155	84.4
Contact with Families SA[3]						
Families SA	93	91	89	74	347	
Usual Residence						
Outside SA	29	18	20	13	80	
Socioeconomic Background (SEIFA IRSD)[4]						
Most disadvantaged SEIFA 5	103	122	97	93	415	39.0
SEIFA 4	96	69	62	59	286	30.7
SEIFA 3	60	77	60	54	251	34.3
SEIFA 2	50	37	43	41	171	22.1
Least disadvantaged SEIFA 1	39	34	32	30	135	18.7
Remoteness (ARIA)[4]						
Major City	228	226	192	194	840	27.7
Inner Regional	39	47	31	35	152	30.3
Outer Regional	49	54	61	35	199	36.8
Remote and Very Remote	32	12	10	13	67	43.5

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
2 The infant mortality rate is calculated per 100 000 live births. See Section 3.16.
3 Death rates for Families SA are not included. See Section 3.16.
4 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 10: Causes of child death by year, South Australia 2005-16

Causes of Death[1]	2005–07	2008–10	2011–13	2014–16	2005-16	Rate[2] per 100 000 2005-16
Certain conditions originating in the perinatal period	108	98	101	88	395	9.3
Congenital malformations, deformations and chromosomal abnormalities	56	57	47	45	205	4.8
Transport	42	36	22	27	127	3.0
Undetermined	24	32	22	19	97	2.3
Cancer	25	22	25	24	96	2.3
Diseases of the nervous system	23	27	15	13	78	1.8
Accident	21	10	11	8	50	1.2
Suicide	9	10	15	9	43	1.0
Deliberate Acts	8	15	6	8	37	0.9
Endocrine, nutritional and metabolic diseases	7	8	10	8	33	0.8
Drowning	11	7	7	7	32	0.8
Diseases of the respiratory system	4	11	7	7	29	0.7
Diseases of the circulatory system	6	7	8	7	28	0.7
Certain infectious and parasitic diseases	5	9	4	4	22	0.5
SIDS	6	2	5	6	19	0.4
Heath-system related	11	2	1	0	14	0.3
Fire-related	5	1	2	1	9	0.2
Neglect	4	1	1	0	6	0.1
Diseases of the musculoskeletal system & connective tissue	1	1	1	1	4	0.09
Diseases of the digestive system	1	0	1	0	2	0.05
Diseases of the eye and adnexa	0	0	0	1	1	0.02
Diseases of the genitourinary system	0	0	1	0	1	0.02
Deaths due to injury and exposure classified as natural by the Committee	0	1	2	1	4[3]	
Cause not yet known	0	0	0	6	6	
Total	**377**	**357**	**314**	**290**	**1338**	**31.5**

1 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
2 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
3 Four deaths classified by the Committee as natural were classified by the ICD10 coding system as a fall, exposure to natural forces and health system related.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 11: Causes of child death by age group, South Australia 2005-16

Causes of Death[1]	< 28 days	28 days – 1 year	1-4 years	5-9 years	10-14 years	15–17 years	Total	Rate[2] per 100 000 2005-16
Certain conditions originating in the perinatal period	347	40	4	1	1	2	395	9.3
Congenital malformations, deformations and chromosomal abnormalities	118	49	14	10	8	6	205	4.8
Cancer	2	3	28	25	20	18	96	2.3
Diseases of the nervous system	8	19	17	11	15	8	78	1.8
Endocrine, nutritional and metabolic diseases	4	4	10	5	3	7	33	0.8
Diseases of the respiratory system	0	7	6	5	7	4	29	0.7
Diseases of the circulatory system	2	11	5	4	3	3	28	0.7
Certain infectious and parasitic diseases	3	12	4	0	2	1	22	0.5
Diseases of the musculoskeletal system & connective tissue	0	1	0	1	1	1	4	0.09
Diseases of the digestive system	0	1	0	0	1	0	2	0.05
Diseases of the eye and adnexa	0	0	0	0	1	0	1	0.02
Diseases of the genitourinary system	0	0	1	0	0	0	1	0.02
Transport	2	3	22	15	21	64	127	3.0
Accident	2	13	10	7	7	11	50	1.2
Suicide	0	0	0	0	3	40	43	1.0
Deliberate Acts	1	8	16	3	3	6	37	0.9
Drowning	0	3	18	5	4	2	32	0.8
Heath-system related	3	2	4	2	2	1	14	0.3
Fire-related	0	0	6	1	2	0	9	0.2
Neglect	0	2	2	0	2	0	6	0.1
Undetermined	13	68	12	2	0	2	97	2.3
SIDS	0	19	0	0	0	0	19	0.4
Deaths due to injury and exposure classified as natural by the Committee	0	1	1	0	0	2	4[3]	
Cause not yet known	0	2	0	0	1	3	6	
Total	**505**	**268**	**180**	**97**	**107**	**181**	**1338**	**31.5**

1 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
2 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
3 Four deaths classified by the Committee as natural were classified by the ICD10 coding system as a fall, exposure to natural forces and health system related.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 12: Demographics of child death and contact with the Department for Child Protection, South Australia 2005-16

	2005-07	2008-10	2011-13	2014-16	2005-16	Rate[1] per 100 000 2005-16
Total	**93**	**91**	**89**	**74**	**347**	**8.2**
Sex						
Female	42	29	37	28	136	6.6
Male	51	62	52	46	211	9.7
Age Group						
Infants (<1 year)	44	43	44	30	161	67.9[2]
1-4 years	18	14	16	12	60	6.5
5-9 years	5	7	6	12	30	2.6
10-14 years	11	10	7	11	39	3.3
15-17 years	15	17	16	9	57	7.7
Cultural Background						
Aboriginal	24	17	31	22	94	51.2
Usual Residence						
Outside SA	4	0	2	0	6	
Socioeconomic Background (SEIFA IRSD)[3]						
Most disadvantaged SEIFA 5	42	45	42	42	171	16.1
SEIFA 4	24	20	19	15	78	8.4
SEIFA 3	13	16	11	6	46	6.3
SEIFA 2	7	4	9	7	27	3.5
Least disadvantaged SEIFA 1	3	6	6	4	19	2.6
Remoteness (ARIA)[3]						
Major City	47	57	48	52	204	6.7
Inner Regional	8	8	9	3	28	5.6
Outer Regional	20	24	26	12	82	15.2
Remote and Very Remote	14	2	4	7	27	17.5

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
2 The infant mortality rate is calculated per 100 000 live births. See Section 3.16.
3 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 13: Child death and contact with the Department for Child Protection by age and leading causes of death, South Australia 2005-16

Causes of Death[1]	Infants < 1 year	1-9 years	10–17 years	Total	Rate[2] per 100 000 2005-16
Conditions originating in the perinatal period	59	2	0	61	1.4
Undetermined	38	7	1	46	1.1
Congenital and chromosomal abnormalities	30	7	3	40	0.9
Transport	1	10	24	35	0.8
Accidents	7	8	11	26	0.6
Diseases of the nervous system	2	9	10	21	0.5
Suicide	0	0	22	22	0.5
Cancer	1	12	6	19	0.4
Deliberate Acts	3	10	3	16	0.4
Total	**161**[3]	**90**[3]	**96**[3]	**347**[3]	**8.2**
Disability[4]	**22**	**27**	**20**	**69**	**1.6**

1 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
2 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
3 Fifty-eight deaths of children whose family had had contact with Families SA were due to natural or other causes of death not shown due to low numbers. The cause of death of three children has not yet been determined.
4 Children who have been determined to have a disability. See Sections 3.9 & 3.10.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 14: Deaths of children under guardianship, South Australia 2005-16

	2005-16	Rate[1] per 100 000 2005-16
Total	**19**	**0.4**
Sex		
Female	6	0.3
Male	13	0.6
Age Group		
0-4 years	5	0.4
5-14 years	6	0.3
15-17 years	8	1.1
Cultural Background		
Aboriginal	12	6.5
Usual Residence		
Outside SA	1	
Socioeconomic Background (SEIFA IRSD)[2]		
Most disadvantaged SEIFA 4 and 5	12	0.6
Least disadvantaged SEIFA 1, 2 and 3	6	0.3
Remoteness (ARIA)[2]		
Major City	11	0.4
Regional and Remote	7	0.6
Cause of Death		
Transport	3	0.1
Accidents	2	0.04
Other	14	0.3
Disability[3]	11	0.3

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
2 South Australian residents only included.
3 Children who have been determined to have a disability. See Section 3.9 & 3.10.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026

Table 15: Deaths of children with a parent who has a history of guardianship, South Australia 2005-16

	2005-16	Rate[1] per 100 000 2005-16
Total	**20**	**0.5**
Sex		
Female	13	0.6
Male	7	0.3
Age Group		
Infants (<1 year)[2]	15	6.3
1-17 years	5	0.1
Cultural Background		
Aboriginal	9	4.9
Usual Residence		
Outside SA	2	
Socioeconomic Background (SEIFA IRSD)[3]		
Most disadvantaged SEIFA 4 and 5	13	0.7
Least disadvantaged SEIFA 1, 2 and 3	5	0.2
Remoteness (ARIA)[3]		
Major City	10	0.3
Regional and Remote	8	0.7
Cause of Death		
Complications of Prematurity	10	0.2
Other	10	0.2

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
2 The infant mortality rate is calculated per 100 000 live births. See Section 3.16.
3 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026

Table 16: Demographics of Aboriginal child death, South Australia 2005-16

	2005-07	2008–10	2011-13	2014-16	2005-16	Rate[1] per 100 000 2005-16
Total	**43**	**31**	**46**	**35**	**155**	**84.4**
Sex						
Female	18	15	22	13	68	NA
Male	25	16	24	22	87	NA
Age Group						
Infants (<1 year)	26	16	29	18	89	10.1[2]
1-4 years	3	3	5	4	15	35.5
5-14 years	6	4	7	10	27	26.6
15-17 years	8	8	5	3	24	82.7
Contact with Families SA[3]						
Families SA	24	17	31	22	94	
Usual Residence						
Outside SA	11	8	6	6	31	
Socioeconomic Background (SEIFA IRSD)[4]						
Most disadvantaged SEIFA 5	24	15	25	23	87	NA[5]
Less disadvantaged SEIFA 1 - 4	8	8	15	6	37	NA
Remoteness (ARIA)[4]						
Major City	11	11	14	13	49	NA
Regional	9	7	21	9	46	NA
Remote and Very Remote	12	5	5	7	29	NA

1 Rates for Aboriginal children have been calculated using the Estimated Resident population of Aboriginal children aged younger than 18 years. See Section 3.16.
2 The infant mortality rate is calculated per 1000 live births. See Section 3.16.
3 Death rates for Families SA are not included. See Section 3.16.
4 South Australian residents only included.
5 Not Available
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 17: Aboriginal child death by age and leading causes of death, South Australia 2005-16

Causes of Death[1]	Infants < 1 year	1-9 years	10–17 years	Total	Rate[2] per 100 000 2005-16
Conditions originating in the perinatal period	45	0	0	45	24.5
Transport	1	3	12	16	8.7
Undetermined	13	1	0	14	7.6
Congenital and chromosomal abnormalities	13	2	0	15	8.2
Diseases of the nervous system	0	4	4	8	4.4
Suicide	0	0	8	8	4.4
Accidents	1	3	3	7	3.8
Total	**89[3]**	**25[3]**	**41[3]**	**155[3]**	**84.3**
Disability[4]	**8**	**8**	**6**	**22**	**12.0**

1 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
2 Rates have been calculated using ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026. See Section 3.16.
3 Forty-two deaths of Aboriginal children were due to natural or other causes of death not shown due to low numbers.
4 Children who have been determined to have a disability. See Section 3.9 & 310.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 18: Demographics of deaths of children with disability, South Australia 2005-16

	2005–07	2008–10	2011–13	2014–16	2005–16	Rate[1] per 100 000 2005-16
Total	**68**	**91**	**74**	**54**	**287**	**6.8**
Sex						
Female	32	38	35	27	132	6.4
Male	36	53	39	27	155	7.1
Age Group						
Infants (<1 year)	37	46	37	26	146	61.6[2]
1-4 years	18	11	9	9	47	5.1
5-9 years	8	9	8	9	34	2.9
10-14 years	2	14	12	7	35	3.0
15-17 years	3	11	8	3	25	3.4
Cultural Background						
Aboriginal	6	4	6	6	22	12.0
Contact with Families SA[3]						
Families SA	14	23	17	15	69	
Usual Residence						
Outside SA	6	3	2	1	12	
Socioeconomic Background (SEIFA IRSD)[4]						
Most disadvantaged SEIFA 5	20	28	24	17	89	8.4
SEIFA 4	14	25	11	9	59	6.3
SEIFA 3	11	18	18	12	59	8.1
SEIFA 2	10	10	11	9	40	5.2
Least disadvantaged SEIFA 1	7	7	8	6	28	3.9
Remoteness (ARIA)[4]						
Major City	39	63	53	37	192	6.3
Inner Regional	7	9	5	9	30	6.0
Outer Regional	12	13	12	7	44	8.1
Remote and Very Remote	4	3	2	0	9	5.8

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16. See Section 3.9 & 3.10 for definitions of disability.
2 The infant mortality rate is calculated per 100 000 live births. See Section 3.16.
3 Death rates for Families SA are not included. See Section 3.16.
4 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 19: Deaths of children with disability 1-17 years, disability type and age at death, South Australia 2005-16

Disability type[1]	1-9 years	10–17 years	Total n=141	Rate[2] per 100 000 2005-16
Neurodegenerative disease, genetic disorder and birth defects	52	25	77	1.9
Cerebral palsy	15	23	38	0.9
Epilepsy	18	23	41	1.0
Heart and circulatory problems	12	2	14	0.3
Intellectual disability	4	8	12	0.3
Autism	1	3	4	0.1
Other disability types	6	5	11	0.3

1 Children with multiple disabilities have been included in all relevant disability subtypes. See Section 3.9 & 3.10 for definitions of disability.
2 Rates have been calculated using ABS population estimates for children between 1-17 years. See Section 3.16.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics

Table 20: Demographics and cause of infant death, South Australia 2005-16

	Age at Death				Total infants	Rate[1] per 1000
	< 1 day	1-6 days	7-27 days	28 days – 1 year		2005-16
Sex						
Female	133	55	54	105	347	3.0
Male	150	59	54	163	426	3.5
Cultural Background						
Aboriginal	33	7	9	40	89	10.1
Causes of Death[2]						
Certain conditions originating in the perinatal period	228	69	50	40	387	1.6
Congenital malformations, deformations and chromosomal abnormalities	48	39	31	49	167	0.7
Undetermined Causes	0	2	11	68	81	0.3
Diseases of the nervous system	1	1	6	19	27	0.1
SIDS	0	0	0	19	19	0.08
Certain infectious and parasitic diseases	0	0	3	12	15	0.06
Accidents	0	0	2	13	15	0.06
Diseases of the circulatory system	0	0	2	11	13	0.05
Deliberate acts	1	0	0	8	9	0.04
Endocrine, nutritional and metabolic diseases	0	2	2	4	8	0.03
Diseases of the respiratory system	0	0	0	7	7	0.03
Transport	1	1	0	3	5	0.02
Cancer	2	0	0	3	5	0.02
Drowning	0	0	0	3	3	0.01
Neglect	0	0	0	2	2	0.008
Cause not yet known	0	0	0	2	2	
Total	**283[3]**	**114[3]**	**108[3]**	**268[3]**	**773[3]**	**3.3**

1 Rate per 1000 live births. Rates have been calculated using the number of livebirths from 2005 to 2016 inclusive. See Section 4.16.
2 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
3 Eight deaths were due to other causes
Sources: Child Death and Serious Injury Review Committee database, Pregnancy Outcome Unit, SA Health

Table 21: Demographics and cause of SUDI deaths, South Australia 2005-16

	2005-16	Rate[1] per 1000 2005-16
Sex		
Female	67	0.6
Male	104	0.9
Age Group		
Deaths in the neonatal period (<28 days)	27	0.1
Deaths in the post-neonatal period (28 days to 1 year)	144	0.6
Cultural Background		
Aboriginal	28	3.2
Contact with Families SA[2]		
Families SA	72	
Socioeconomic Background (SEIFA IRSD)[3]		
Most disadvantaged SEIFA 4 and 5	114	
Least disadvantaged SEIFA 1, 2 and 3	54	
Remoteness (ARIA)[3]		
Major City	108	
Regional and Remote	60	
Causes of Death[4]		
Undetermined	81	0.3
SIDS	19	0.08
Accidents	15	0.06
Congenital malformations, deformations and chromosomal abnormalities	9	0.04
Certain infectious and parasitic diseases	9	0.04
Diseases of the circulatory system	8	0.03
Deliberate Acts	8	0.03
Transport	5	0.02
Drowning	3	0.01
Other natural causes of death	14	0.06
Total	**171**	**0.7**

1 Rate per 1000 live births. Rates have been calculated using the number of livebirths from 2005 to 2015 inclusive. See Section 3.16.
2 Death rates for Families SA are not included. See Section 3.16.
3 South Australian residents only. Death rates are not available.
4 The Child Death and Serious Injury Review Committee assigns its own classification of the cause of each death and also assigns codes using the ICD10 classification of mortality. For deaths classified by the Committee as natural, the ICD10 coding (denoted by italics) is used to provide further detail. See Section 3.8.
Sources: Child Death and Serious Injury Review Committee database, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 22: Demographics of child death attributed to illness or disease, South Australia 2005-16

	2005–07	2008–10	2011–13	2014–16	2005-16	Rate[1] per 1000 2005-16
Total	**236**	**241**	**222**	**199**	**898**	**21.1**
Sex						
Female	108	99	106	92	405	19.5
Male	128	142	116	107	493	22.7
Age Group						
Infants (<1 year)	174	166	152	140	632	266.6[2]
1-4 years	26	20	24	20	90	9.7
5-9 years	13	15	19	15	62	5.3
10-14 years	12	18	17	15	62	5.2
15-17 years	11	22	10	9	52	7.0
Cultural Background						
Aboriginal	24	19	27	22	92	50.1
Contact with Families SA[3]						
Families SA	47	45	41	37	170	
Usual Residence						
Outside SA	22	12	16	9	59	
Socioeconomic Background (SEIFA IRSD)[4]						
Most disadvantaged SEIFA 5	55	75	67	56	253	23.8
SEIFA 4	62	51	41	37	191	20.5
SEIFA 3	41	52	45	46	184	25.1
SEIFA 2	29	30	28	29	116	15.0
Least disadvantaged SEIFA 1	27	21	25	22	95	13.1
Remoteness (ARIA)[4]						
Major City	144	164	139	139	586	19.3
Inner Regional	27	26	19	24	96	19.2
Outer Regional	30	33	41	20	124	22.9
Remote and Very Remote	13	6	7	7	33	21.4

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16.
2 The infant mortality rate is calculated per 100 000 live births See Section 3.16.
3 Death rates for Families SA are not included. See Section 3.16.
4 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Child death attributed to undetermined causes, 1-17 year olds

A child's death is attributed to an undetermined cause when, after consideration of all information, no one cause of death is more compelling than other possible causes. For information about the deaths of infants attributed to undetermined causes, see section 2.5.1.

In the period between 2005 and 2016:

- ***There were 16 deaths of children aged 1-17 years attributed to undetermined causes***
- ***Undetermined causes were attributed more often to deaths of 1-4 year olds (12 deaths) than 5-17 year olds (4 deaths)***
- ***All deaths of 1-4 year olds attributed to undetermined causes occurred after they were placed to sleep.***

Table 23: Demographics of child death attributed to not-natural causes, South Australia 2005-16

	2005–07	2008–10	2011–13	2014–16	2005-16	Rate[1] per 1000 2005-16
Total	**111**	**82**	**65**	**60**	**318**	**7.5**
Sex						
Female	48	29	26	22	125	6.0
Male	63	53	39	38	193	8.9
Age Group						
Infants (<1 year)	23	10	4	2	39	16.4[2]
1-4 years	24	20	18	16	78	8.4
5-9 years	9	6	7	11	33	2.9
10-14 years	14	8	8	14	44	3.7
15-17 years	41	38	28	17	124	16.7
Cultural Background						
Aboriginal	12	9	12	11	44	23.9
Contact with Families SA[3]						
Families SA	33	29	33	26	121	
Usual Residence						
Outside SA	7	6	4	2	19	
Socioeconomic Background (SEIFA IRSD)[4]						
Most disadvantaged SEIFA 5	32	29	19	23	103	9.7
SEIFA 4	29	16	12	15	72	7.7
SEIFA 3	16	17	12	4	49	6.7
SEIFA 2	18	7	12	9	46	5.9
Least disadvantaged SEIFA 1	9	7	6	7	29	4.0
Remoteness (ARIA)[4]						
Major City	63	41	36	34	174	5.7
Inner Regional	10	13	11	8	42	8.4
Outer Regional	14	16	13	10	53	9.8
Remote and Very Remote	17	6	1	6	30	19.5

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16. Not-natural causes includes deaths attributes to transport crashes, deliberate acts by another person, fire, drowning, suicide, accidents medical misadventure and neglect.
2 The infant mortality rate is calculated per 100 000 live births. See Section 3.16.
3 Death rates for Families SA are not included. See Section 3.16.
4 South Australian residents only included.
Sources: Child Death and Serious Injury Review Committee database, ABS cat no. 3101.0 Australian Demographic Statistics, ABS Cat no 3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026, Pregnancy Outcome Unit, SA Health

Table 24: Child death by ICD-10 chapter, South Australia 2005-16

ICD-10 Chapter Description	Number of deaths per year				2005-16	Rate[1] per 100 000 2005–16
	2005 –07	2008 –10	2011 –13	2014 –16		
Illness or Disease (Natural Causes)						
Certain infections and parasitic diseases (A00-B99)	5	9	4	4	22	0.5
Neoplasms (C00-D48)	25	22	25	24	96	2.3
Endocrine, nutritional and metabolic diseases (E00-E90)	8	9	10	8	35	0.8
Diseases of the nervous system (G00-G99)	24	27	16	13	80	1.9
Diseases of the eye and adnexa (H00-H59)	1	0	0	1	2	0.05
Diseases of the circulatory system (I00-I99)	7	7	8	7	29	0.7
Diseases of the respiratory system (J00-J99)	5	11	7	7	30	0.7
Diseases of the digestive system (K00-K93)	3	0	1	0	4	0.1
Diseases of the musculoskeletal system and connective tissue (M00-M99) or	2	2	1	1	6	0.1
Diseases of the genitourinary system (N00-N99)	0	0	1	0	1	0.02
Certain conditions originating in the perinatal period (P00-P96)	111	99	102	88	400	9.4
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	59	57	47	45	208	4.9
Illness or Disease	**250**	**243**	**222**	**198**	**913**	**21.5**
SIDS and Undetermined Causes Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	**29**	**32**	**27**	**25**	**113**	**2.7**
Not-Natural Causes[2]						
Transport-related (V01-V99)	46	35	23	26	130	3.1
Falls (W00-W19)	2	2	2	3	9	0.2
Exposure to inanimate mechanical forces (W20-W49)	5	2	3	4	14	0.3
Accidental drowning and submersion (W65-W74)	8	7	7	6	28	0.7
Other accidental threats to breathing (W75-W84)	13	8	7	3	31	0.7
Exposure to electrical current, radiation, extreme air temperature or pressure (W85-W99)	0	0	0	1	1	0.02
Exposure to smoke fire and flames (X00-X09)	2	1	2	1	6	0.1
Exposure to natural forces (X30-X39)	0	0	0	1	1	0.02
Accidental poisoning by exposure to noxious substance (X40-X49)	2	3	4	0	9	0.2
Accidental exposure to other unspecified factors (X58-X59)	0	2	0	0	2	0.05
Intentional self harm (X60-X84)	3	10	9	9	31	0.7
Assault (X85-Y09)	9	9	5	3	26	0.6
Event of undetermined intent (Y10-Y34)	7	2	0	1	10	0.2
Medical devices associated with adverse incidents (Y70-Y82)	1	0	3	0	4	0.1
Not-Natural Causes[2]	**98**	**81**	**65**	**58**	**302**	**7.1**
Cause not yet known	0	1	0	9	10	
All Deaths – Total	**377**	**357**	**314**	**290**	**1338**	**31.5**

1 Rates have been calculated using ABS population estimates for children between 0-17 years. See Section 3.16. See Section 3.8.1 for Committee's use of ICD-10 coding.
2 Not-natural causes includes deaths attributes to transport crashes, deliberate acts by another person, fire, drowning, suicide, accidents medical misadventure and neglect.
Sources: Child Death and Serious Injury Review Committee database and ABS cat no. 3101.0 Australian Demographic Statistics